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[Continued on nextpage]

(54) **Title:** METHOD OF MOUNTING A TOILET BOWL ON A WALL AND MOUNTING KIT USED THEREFORE

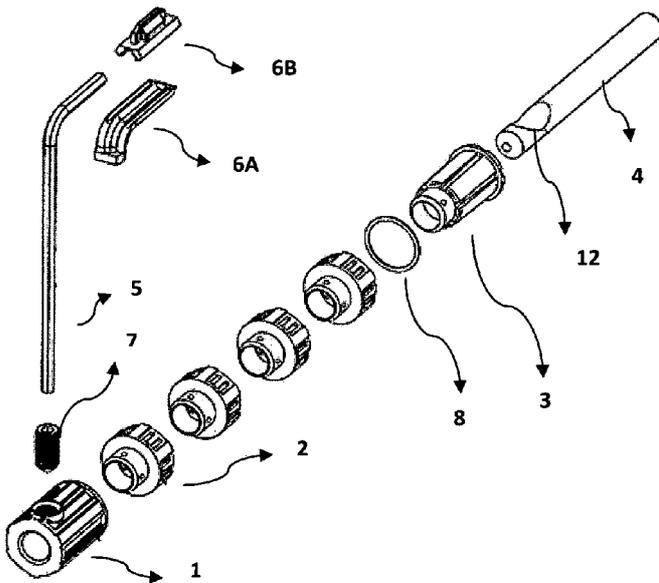


Figure 3

(57) **Abstract:** The present invention relates to a method of mounting a toilet bowl on a wall and a mounting kit used therefore. The kit comprises a mounting system and an alien key (5). The mounting system comprises a rear connecting piece (3) that is first mounted to the bowl and then the bowl with the mounting system is slid on a stud bolt (4) mounted on the wall. The mounting system further comprises a clamping piece (1) with an alien screw (7) to fix the mounting system on the bolt whereby the alien screw (7) is operated through a hole (11) in the bowl. Furthermore, the mounting system comprises a plurality of extension pieces (2) and a washer (8) mounted between the clamping piece (1) and the rear connecting piece (3), whereby the number of extension pieces (2) used depends on the distance (z) between where the rear connecting piece (3) is mounted to the bowl and the hole (11) in the bowl for the alien key to allow operating of the alien screw (7). This allows using of the kit with different bowls having different distances (z) between the hole in the bowl and where the rear connecting piece (3) is mounted.

DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT,  
LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE,  
SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA,  
GN, GQ, GW, ML, MR, NE, SN, TD, TG).

— of inventorship (Rule 4.17(iv))

**Published:**

— with international search report (Art. 21(3))

**Declarations under Rule 4.17:**

— as to applicant's entitlement to apply for and be granted  
a patent (Rule 4.17(H))

## DESCRIPTION

**METHOD OF MOUNTING A TOILET BOWL ON A WALL AND  
MOUNTING KIT USED THEREFORE**5 **Subject of the Invention**

The subject of the present invention is related to a system that provides the easy mounting of the sanitaryware products on the wall and to a method related to the realization of the mounting of the sanitaryware products by using this system.

**Present State of the Art**

10 In the majority of available sanitaryware products, mounting on the wall surface is made through the hollow surfaces positioned at the sides of the product. This leads to the formation of a non-aesthetic appearance of the sanitaryware products. Whereas with the so-called hidden-mounting methods in which instead of using the assembly holes at the sides of the product, mounting on the wall is realized from the bottom of the product  
15 without drilling any holes, certain time-consuming and labor-increasing problems such as the difficulty of the assembly process due to the short distance between the lower piece of the product and the floor and the difficulty to see the location of mounting, are confronted.

By using the systems developed in the present state of art, it is possible to mount the  
20 sanitaryware products, pieceicularly the toilet closets from the holes present at their upper surfaces. The utility model, Reg. no. 2009 04485 pertains to a mounting apparatus developed to mount the wall hung WC pan on the wall surface and it is not possible to realize the mounting of all types of sanitaryware product by using the mentioned system. Fig. 14 shows the modifications that need to be made on the product in order to make it  
25 possible to realize the mounting by using the mentioned system. The mounting of the products with a long z distance (mounting distance between the holes existing at the top surface of the product and on the wall surface) as shown in the figure, cannot be realized by the subject system and in these products, i.e. those with a long mounting distance (z distance) the surface of the product will have to be extended up to a point referred to as the

"Y" distance, as shown in Fig. 14 with arrows. This will require a modification on the products.

5 In the patent no. EP 1338711, a mounting system is mentioned. This system is similar to that described in the utility model no. 2009 04485 wherein the main difference between these two systems is that while a fastening piece is used on the piece defined as the body in the utility model no. 2009 04485, this body forms a monolithic structure together with the dowel in the patent no. EP 1338711. Again, it is not possible to realize the mounting of the sanitaryware products by using the system mentioned in the patent no. EP 1338711. Only  
10 those products with an appropriate z distance can be installed by using this system. The mounting systems mentioned in aforementioned applications can be used only if certain modifications are made on the products to be installed or the products have to be designed in accordance with these mentioned systems.

15 In the patent no. EP2199473 the system mentioned in EP 1338711 is used and the same disadvantages are valid for this mounting system too. In all systems mentioned above, in cases when the distance between the hole on the upper surface of the sanitaryware product and the wall is long, the mounting process cannot be realized. As shown in Fig. 14, the distance "Y" has to be designed so that it allows the use of these systems.

20

### **A Brief Explanation of the Invention**

The subject of the present invention is related to a system that provides the easy mounting of the sanitaryware products on the wall and to a method related to the realization of the mounting of the sanitaryware products by using this system.

25 In the system of the present invention, the sanitaryware product is fixed to the wall by tightening the screw on the clamping piece using an alien key that is attached through the mounting holes. In the system of the present invention, differently from the systems used in the present state of art, extension pieces are used and in cases when the distance of the mounting hole (z distance) on the upper surface of the sanitaryware product is different, by  
30 attaching extension pieces to the clamping piece, the mounting of the sanitaryware products of different sizes can be realized without making any modifications on the product.

**Explanation of the Figures**

**Figure 1** shows the mounting of a product using the system developed within the scope of the present invention, wherein the distance between the mounting hole on the product and the wall surface (the z distance) is long.

5 **Figure 2** shows the mounting of a product using the system developed within the scope of the invention, wherein the distance between the mounting hole on the product and the wall surface (the z distance) is short.

**Figure 3** shows the pieces of the mounting system.

**Figure 4** shows the attachment of the extension pieces to the clamping piece.

10 **Figure 5** shows the mounting of a sanitaryware product.

**Figure 6** shows the mounting of a sanitaryware product.

**Figure 7** is the perspective view of the mounting of a sanitaryware product using the system according to the present invention

15 **Figure 8** shows the completion of the mounting of a sanitaryware product using the system according to the present invention

**Figure 9** is the perspective view showing the realization of the mounting process of the sanitaryware product from below, by using the system according to the present invention

**Figure 10** is the detailed view showing the realization of the mounting process of the sanitaryware product from below, by using the system according to the present invention

20 **Figure 11** is the perspective view showing the realization of the mounting process of the sanitaryware product from the side, by using the system according to the present invention

**Figure 12** is the detailed view showing the realization of the mounting process of the sanitaryware product from the side, by using the system according to the present invention

**Figure 13** is the locking system on the mounting system according to the present invention

25 **Figure 14** shows the mounting distance between the mounting hole on the sanitaryware product and the wall surface

**Description of the References:**

- Z: The mounting distance between the mounting hole on the sanitaryware product and the wall surface
- Y: The distance that the product surface needs to be extended in case of using the state of art mounting systems
- 5
- 1: Clamping Piece
- 2: Extension Piece
- 3: Rear Connecting Piece
- 4: Stud Bolt
- 10 5: Allen Key
- 6: Key Piece (6a: lower key piece, 6b: upper key piece)
- 7: Allen Screw
- 8: Washer
- 9: Protruding sections of the pieces
- 15 10: Slots on the pieces
- 11: Mounting holes on the sanitaryware product
- 12: Conical cavity on the stud bolt/piece
- 13: Mounting hole at the back of the sanitaryware product
- 14: Sanitaryware product

20

### Description of the Invention

The subject of the present invention is related to a system that provides the easy mounting of the sanitaryware products on the wall and to a method related to the realization of the mounting of the sanitaryware products by using this system.

- 5 The system of the invention consists of a clamping piece (1), extension pieces (2), rear connecting piece (3), stud bolt (4) alien key (5), key piece (6), alien screw (7) and washer (8) pieces. Although modification of the product is required when mounting systems of the present state of art are used, in case of using the system of the present invention, the mounting process can be realized without making any changes on the product.
- 10 For the implementation of the mounting system developed within the scope of the invention, first the key pieces (6a, 6b) are combined on the alien key (5). These pieces allow the alien key with its surface area expanded, to be handled more easily and to realize the tightening operation in an easier way. A number of extension pieces (2) according to the distance between the holes (11) on the upper surface of the sanitaryware product to be
- 15 installed on the wall and mounting point on the wall (z distance) are attached to the clamping piece (1) (Fig. 4) and the clamping (1) and extension (2) pieces are aligned to the sanitaryware product through the inner side of the hole (13) for realizing the mounting (Fig. 5). The rear connecting piece (3) is aligned to the wall from the back surface of the mounting hole (13) and with the help of the key piece (6) on the alien key (5) it (3) is turned 90°
- 20 clockwise in order to be fixed to the extension pieces (2). (Fig. 6). By means of the hole (11) on the upper surface of the sanitaryware product (14) one can control whether the alien key (5) aligns the alien screw (7) or not and provide the alignment. The stud bolt/piece (4) is fixed to the stud protruding from the wall in such a manner that the conical cavity (12) on it (4) will be positioned at the top (Fig. 7). The sanitaryware product (14) is installed on the
- 25 stud bolt (4) through the mounting holes (13) on its back surface. The alien key (5) tightens the alien screw (7) through the holes (11) on the sanitaryware product and so the product is fixed to the wall surface (Fig. 8). In this manner the mounting process of the product is completed. The use of the system according to the present invention allows the mounting of all products, even if the mounting holes (11) on the product have mounting distances ("z" distances) of different lengths. By adding a number of extension pieces (2) according to the
- 30 "z" distance of the product to the mounting system, the mounting of various sanitaryware

products can be realized without making any modifications on the product. In this case, the requirement for a modification of design or any amendments in the product according to the present state of art is eliminated. Since the said extension pieces also serve as guides, the mounting process onto the stud bolt protruding from the wall surface is realized easily.

5 In the system of the present invention, in case of the stripping of teeth during the screwing process of the pieces, there is also a locking system. With this locking system, the protrusion sections (9) of the attached rear connecting piece (3) and the extension pieces (2) engage into the slots (10) present on the piece that they have been attached to, and thus the locking process is completed. In this case, the locking operation is realized both in the extension  
10 pieces attached to each other and in the rear connecting piece attached to the said extension pieces (2).

In the system of the present invention, the mounting of different products can be realized by the use of a desired quantity of extension pieces, without making any modifications on the product. The system according to the invention can be used not only for the mounting of the  
15 products with mounting holes present at their upper section but also for the mounting of the products with mounting holes at different points of the products. Also the mounting of the products with mounting holes at their lower and side sections can be realized by using the system according to the invention. Mounting from the bottom and from the side performed by using the system of the invention is shown in Figures 9, 10, 11 and 12. Thus,  
20 the presence of the mounting holes at the mounting area of the sanitaryware products and positions of the alien screw and the alien key facing the side and down, are sufficient for the realization of the mounting.

Although the application comprises the drawings related to the mounting of the closets, the  
25 system can be used for the mounting of all types of sanitaryware products as long as there are mounting holes on the surface where the mounting will be realized. By using the mounting system developed within the scope of the invention, the mounting of many sanitaryware products such as WC pans, wash basins, bidets, and urinals on the wall surface can be realized. Sanitaryware products mentioned in this patent are ceramic however the  
30 mentioned sanitaryware products can also be made of a polymer-based material or made of any other suitable material within the scope of the present invention.

## CLAIMS

1. A mounting system developed for the mounting of the sanitaryware products on the wall comprises; a clamping piece (1), extension pieces (2), rear connecting piece (3), stud bolt (4), alien key (5), key piece (6), alien screw (7) and washer (8) .
- 5
2. A method relating to the mounting of the sanitaryware product by using the mounting system according to Claim 1, **characterized** in that the mounting process is realized by;
- combining the key pieces (6a, 6b) on the alien key (5)
  - 10 • attaching a number of extension pieces (2) according to the distance between the holes on the upper surface of the sanitaryware product and the wall ("z" distance) to the clamping piece (1)
  - aligning the clamping piece (1) and extension pieces (2) to the sanitaryware product, through the inner side of the hole on the sanitaryware product to be mounted to the wall
  - 15 • aligning the rear connecting piece (3) to the wall from the back surface of the mounting hole (13) and turning it (3) 90° clockwise with the help of the key piece (6) on the alien key (5) in order to fix it (3) to the extension pieces (2)
  - providing the alignment by controlling whether the alien key (5) aligns the alien screw (7) or not, through the hole on the upper surface of the sanitaryware product
  - 20 (14)
  - fixing the stud bolt (4) to the stud protruding from the wall in such a manner that the conical cavity (12) on it will be positioned at the top
  - mounting the sanitaryware product on the stud bolt (4) through the mounting holes
  - 25 (13) on its rear surface
  - fixing the product to the wall surface with tightening the alien screw (7) by means of the alien key (5) to make it (7) proceed through the holes (11) on the sanitaryware product and thus realizing the mounting process .
- 30 3. A method according to Claim 2, **characterized** in that the mounting is performed through the holes (11) on the upper surface of the product.

4. A method according to Claim 2, **characterized** in that the mounting is performed through the holes (11) on the bottom surface of the product.
- 5 5. A method according to Claim 2, **characterized** in that the mounting is performed through the holes on the side surface of the product.
6. A mounting system developed for the mounting of the sanitaryware products according to Claim 1, **characterized** in that, in case the mounting holes (11) on the  
10 product have mounting distances ("z" distances) are of different lengths, a desired number of extension pieces (2) are attached to the mounting system, in order to adjust the mounting distance.
7. A mounting system developed for the mounting of the sanitaryware products  
15 according to Claim 1 and 6, **characterized** in that; it comprises a locking system which comprises protrusion sections (9) and corresponding slots (10) to these protrusions on the attached extension pieces (2) and the rear connecting piece (3).
8. A method developed for the mounting of the sanitaryware products according to  
20 claim 2, 3, 4 and 5 wherein the mentioned sanitaryware products are ceramic.
9. A method developed for the mounting of the sanitaryware products according to  
claim 2, 3, 4 and 5 wherein the mentioned sanitaryware products are made of a  
polymer-based material or any other suitable material.

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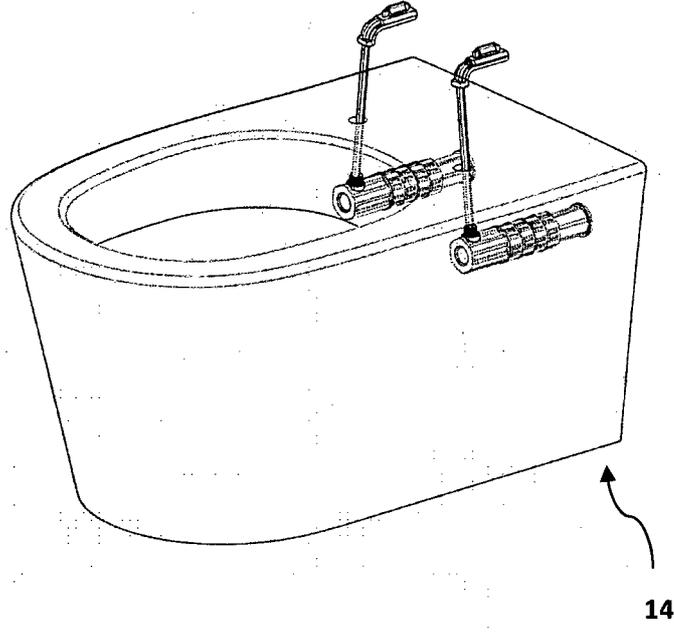


Figure 1

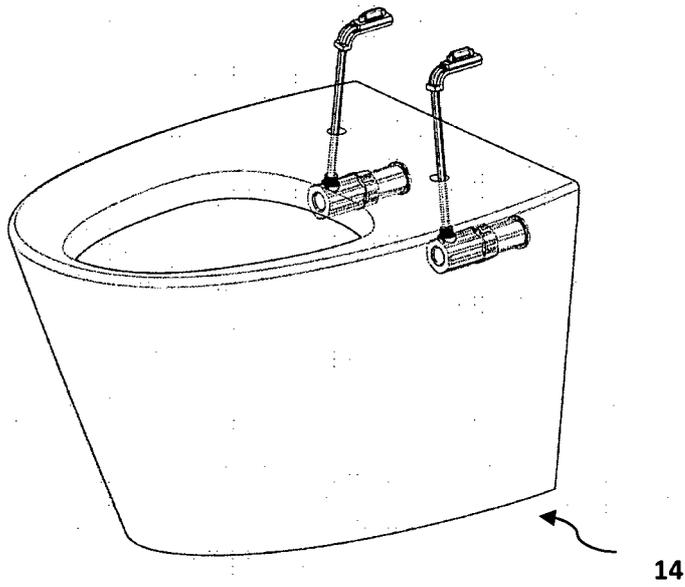


Figure 2

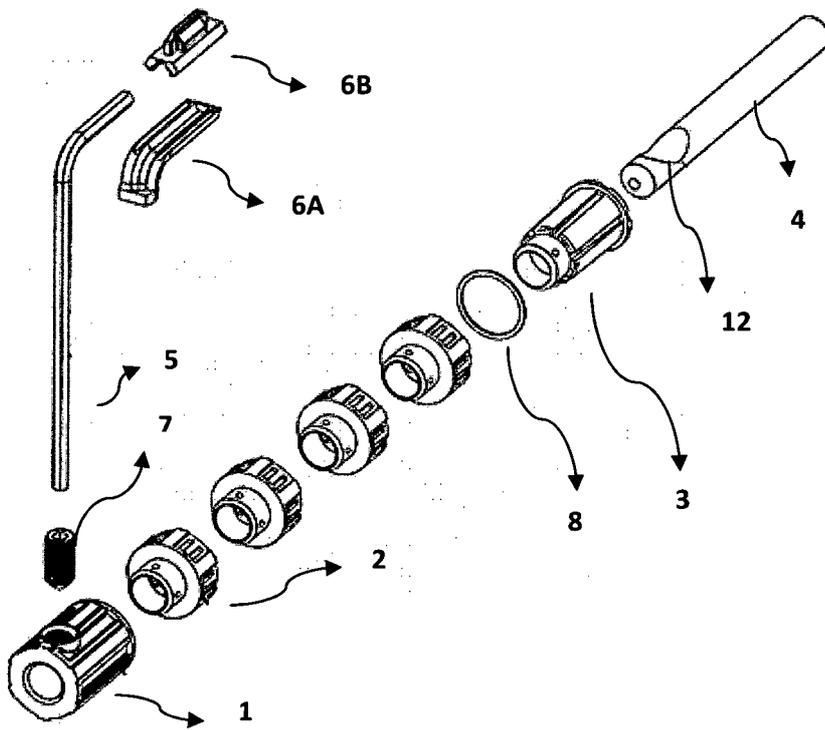


Figure 3

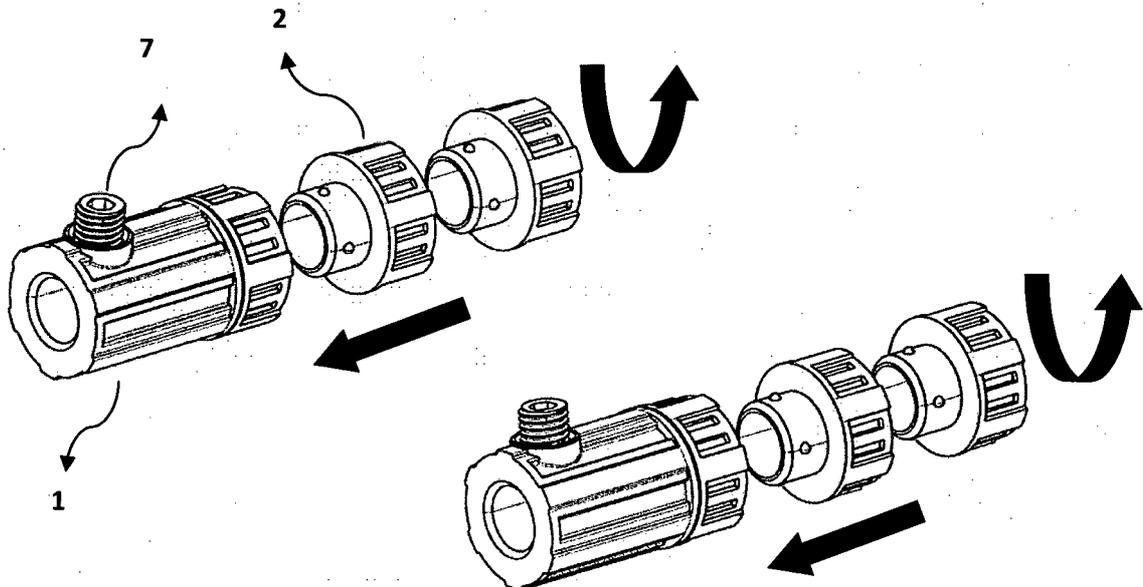


Figure 4

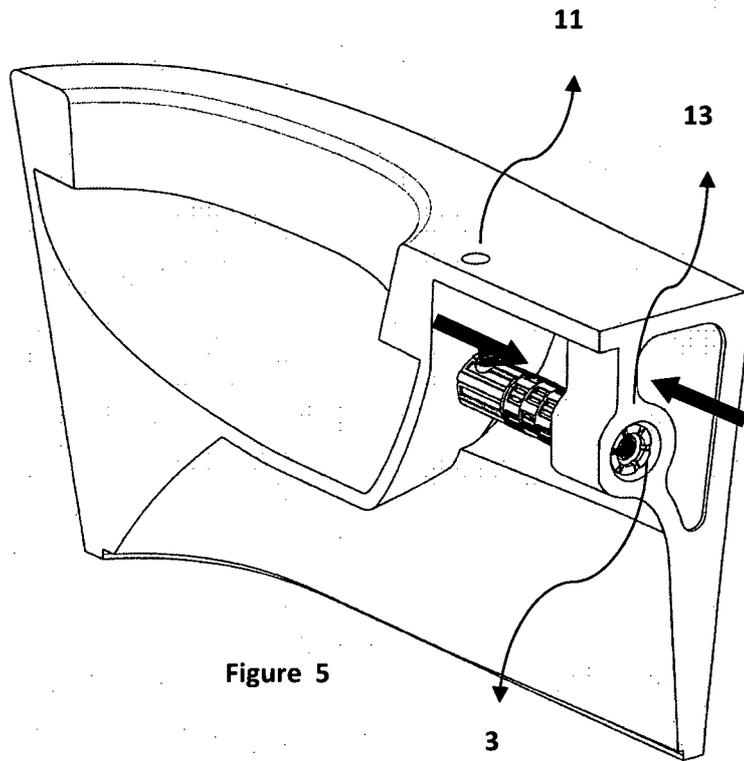


Figure 5

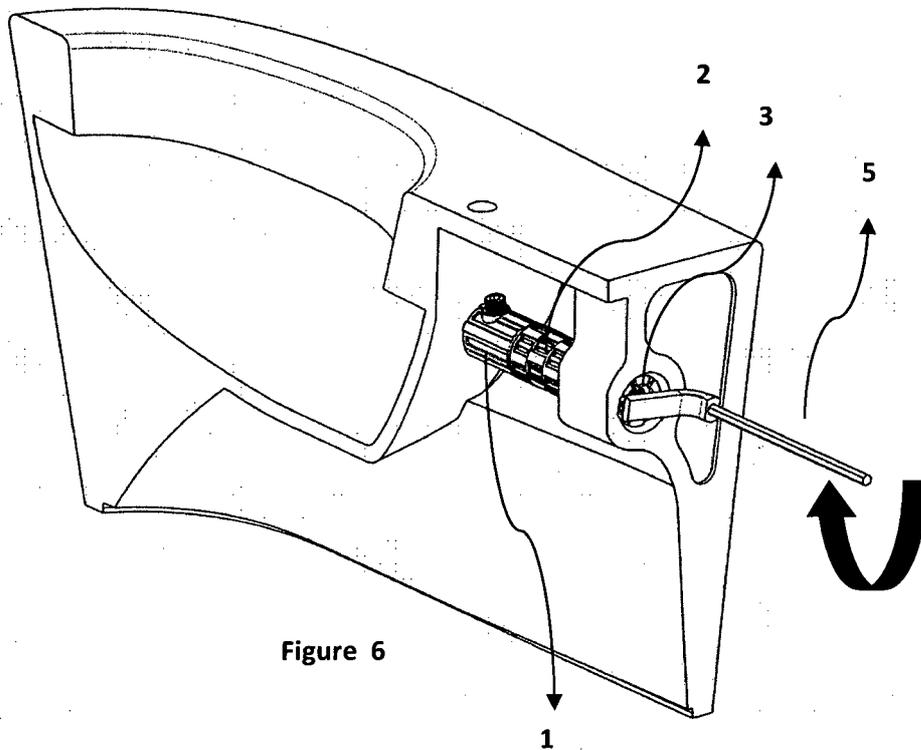


Figure 6

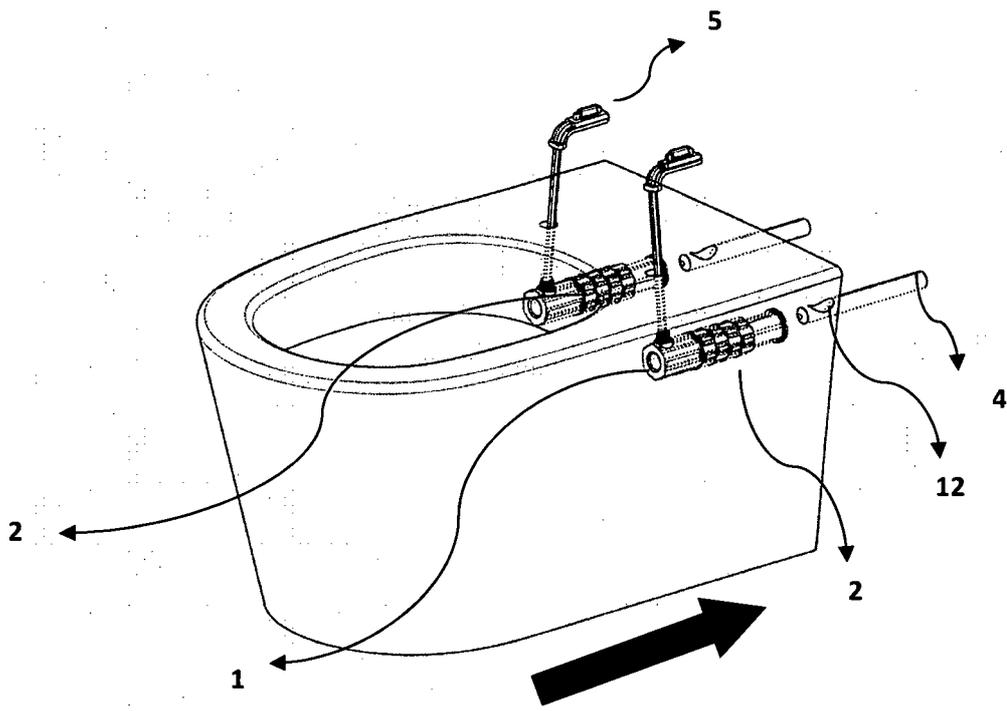


Figure 7

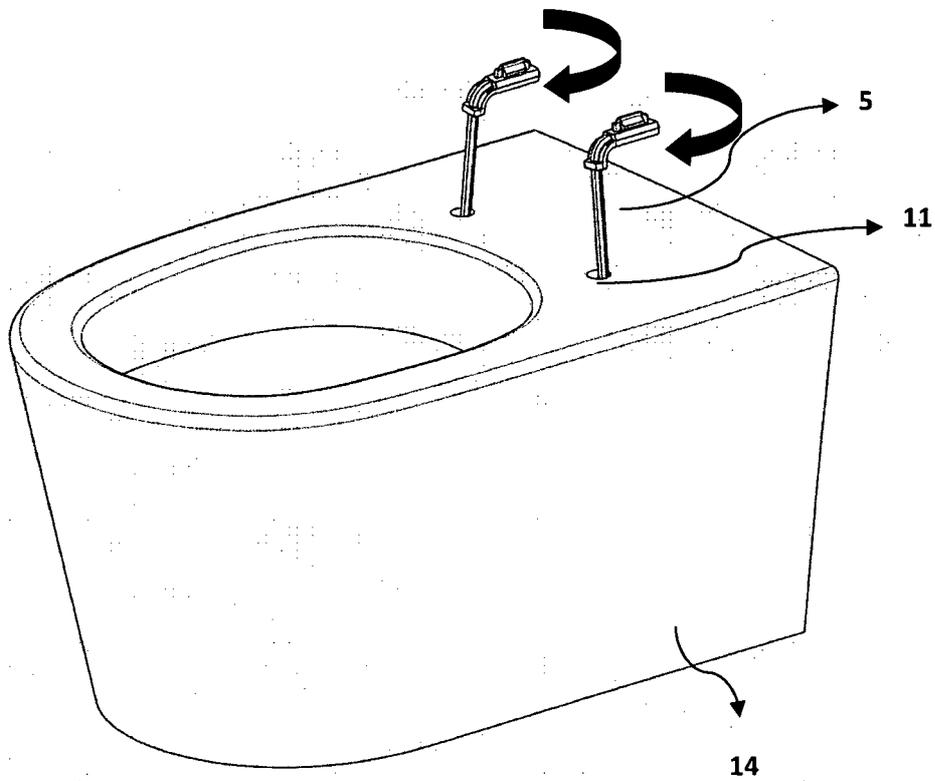


Figure 8

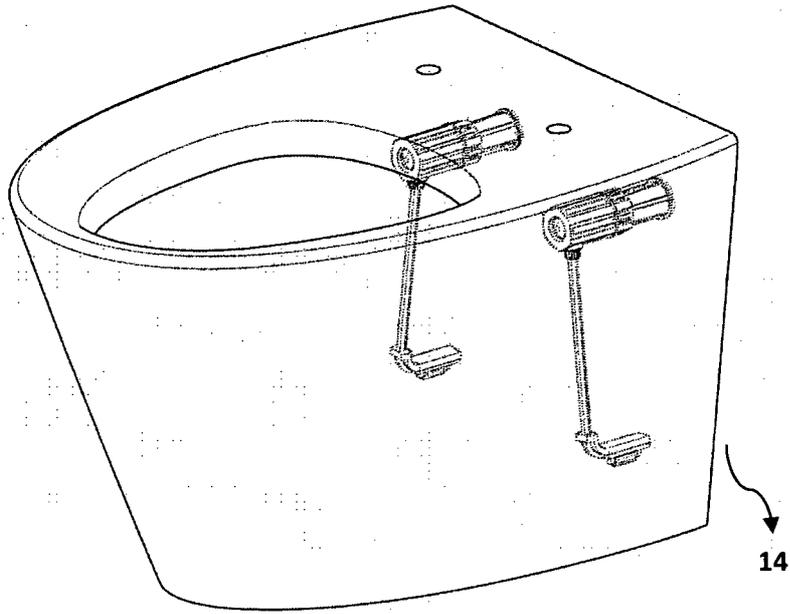


Figure 9

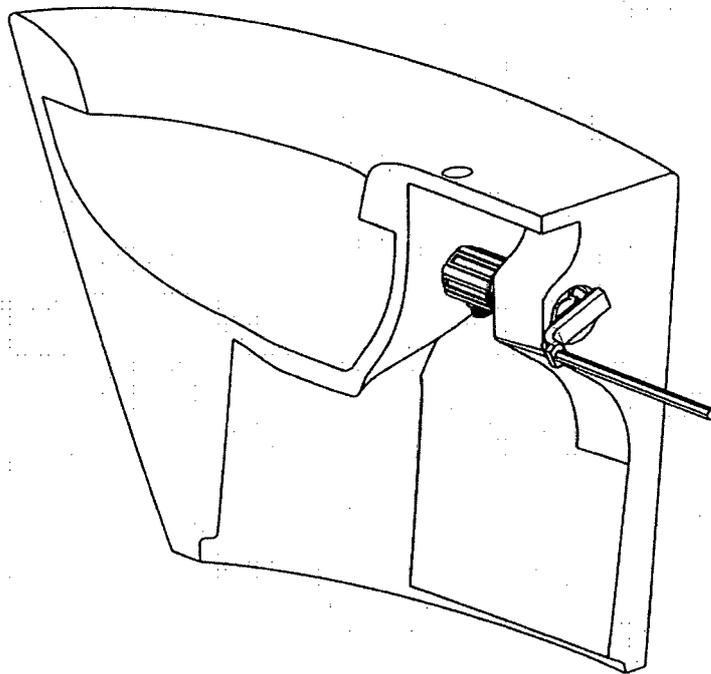


Figure 10

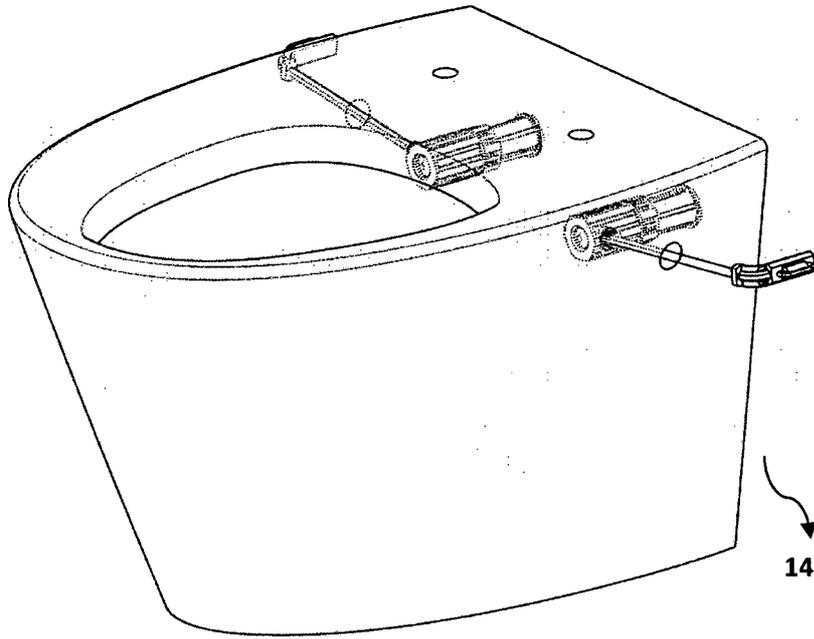


Figure 11

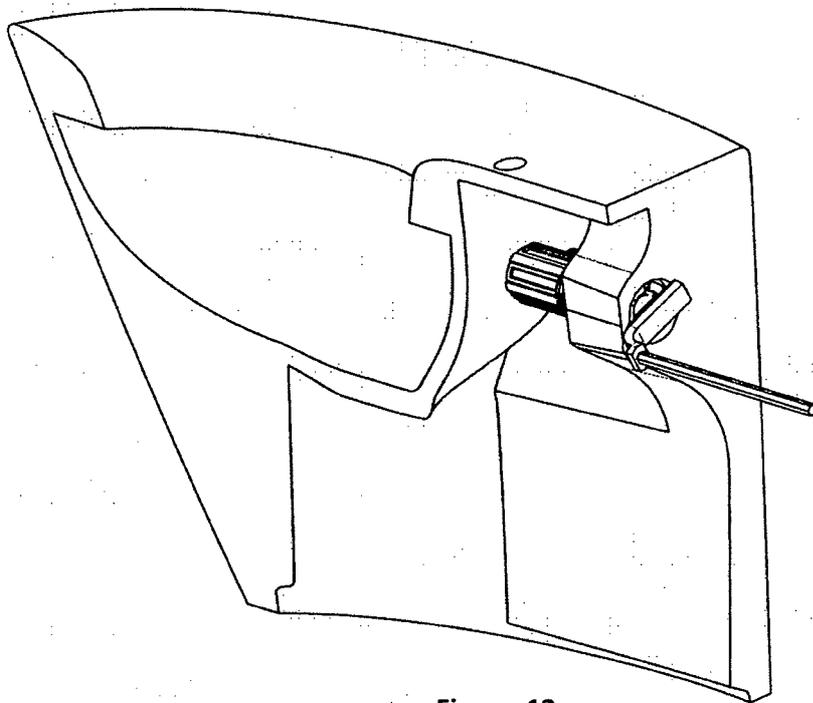


Figure 12

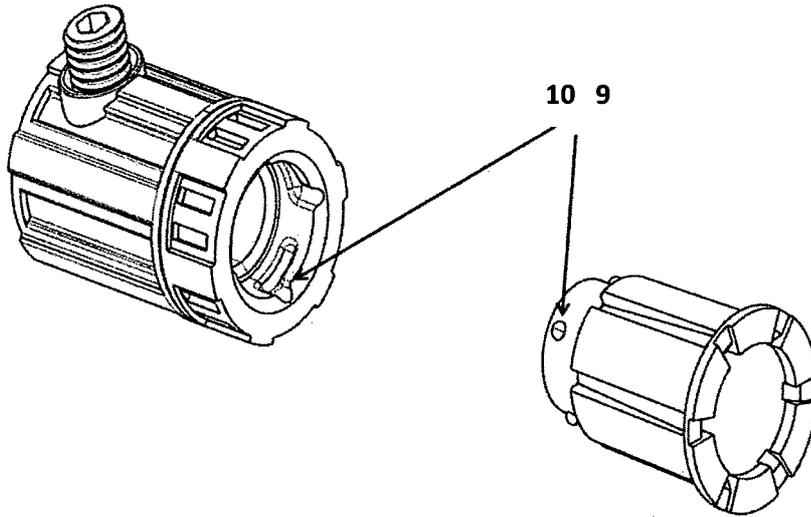


Figure 13

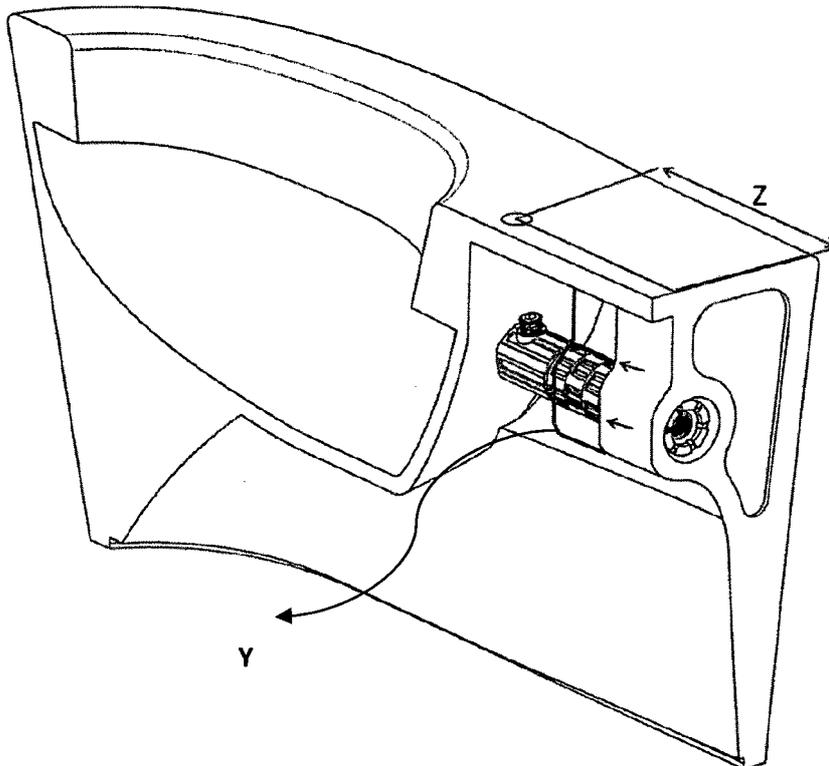


Figure 14

# INTERNATIONAL SEARCH REPORT

International application No <b>PCT/TR2012/000031</b>
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A. CLASSIFICATION OF SUBJECT MATTER  
**INV. E03D11/14**  
 ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
**E03D F16B**

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
**EPO-Internal , WPI Data**

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 1 338 711 AI ( FISCHER ARTUR WERKE GMBH [DE] FISCHERWERKE GMBH & CO KG [DE] ) 27 August 2003 (2003-08-27) the whole document -----	1-9
A	NL 9 401 071 A (KONINKL SPHINX NV [NL] ) 1 February 1996 (1996-02-01) the whole document -----	1-9
A	DE 91 03 333 UI (KERAMAG) 20 June 1991 (1991-06-20) the whole document -----	1-9

Further documents are listed in the continuation of Box C.       See patent family annex.

\* Special categories of cited documents :

<p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier application or patent but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>	<p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>"&amp;" document member of the same patent family</p>
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Date of the actual completion of the international search  <b>26 June 2012</b>	Date of mailing of the international search report  <b>06/07/2012</b>
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer  <b>Gei senhofer, Mi chael</b>
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# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/TR20 12/00Q03 1

## Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claims Nos.: 1, 6 » 7  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:  
**see FURTHER INFORMATION sheet PCT/ISA/2 1Q**
  
3.  Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1.  As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
  
2.  As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
  
3.  As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
  
4.  No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

### Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.2

Claims Nos.: 1, 6, 7

The product claims 1, 6 and 7 of the set of claims do not contain all relevant essential features for a clear and complete definition of the invention. Claim 1 only enumerates the various parts of the mounting system but is completely silent with respect to the interaction between the parts. However, it is essential that the clamping piece is provided with the alien screw that in turn interacts with a conical cavity on the stud bolt such that the bowl is pressed against the wall where the stud bolt is mounted. It is also essential that the rear connecting piece is mounted to the bowl and that the extension pieces and the washer are mounted between clamping piece and rear connecting piece. Furthermore, it is to be noted that the mounting system as such does not comprise the alien key which is just the tool used to mount the system. Since all these features were not properly defined in the product claims, it is not possible to carry out a meaningful search until the interaction between the various parts is clearly defined.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.2), should the problems which led to the Article 17(2) declaration be overcome.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/TR2012/000031

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 1338711	A1	27-08-2003	AT 446419 T 15-11-2009
			DK 1338711 T3 08-02-2010
			EP 1338711 A1 27-08-2003
			ES 2334217 T3 08-03-2010
			IT PD20020048 A1 26-08-2003
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NL 9401071	A	01-02-1996	NONE
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DE 9103333	U1	20-06-1991	NONE
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