



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:  
**17.06.2015 Bulletin 2015/25**

(51) Int Cl.:  
**A47K 7/08 (2006.01)**

(21) Application number: **14197328.9**

(22) Date of filing: **11.12.2014**

(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**

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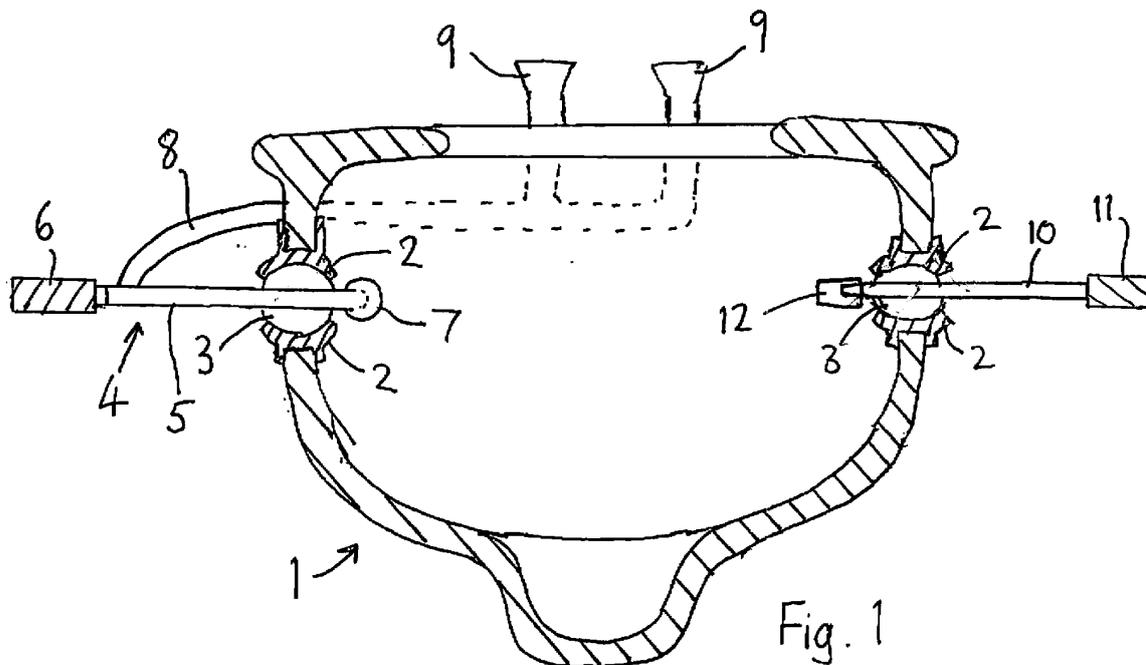
(30) Priority: **13.12.2013 GB 201322069**

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(54) **TOILET BOWL WITH A WIPING AND DRYING DEVICE**

(57) A toilet 1 includes a bottom-wiping hygiene device. A porous bottom-wiping member 7 is arranged on a wiping control member 4 mounted to a wall of the toilet. The wiping control member includes a handle 6 protruding

from the toilet. A water supply conduit 8 is connected to the porous member 7. An optional drying device comprises a drying control member 10 carrying a drying element 12.



**Description**Background to the Invention

**[0001]** This invention relates to a toilet.

**[0002]** A number of different toilets having bidet functions are known. For example, a nozzle may produce an upwardly-directed jet or spray of water.

**[0003]** It is an aim of the invention to provide a toilet that allows a particularly high level of personal hygiene.

Summary of the Invention

**[0004]** The invention provides a toilet including a hygiene device comprising a porous bottom-wiping member arranged on a wiping control member mounted to a wall of the toilet, the wiping control member including a handle protruding from the toilet, and a water supply conduit connected to the porous member for supplying water thereto. The porous member may be in the form of a brush or a sponge. With this arrangement, the user is given greater control over personal hygiene than is provided by the known arrangements involving jets of water.

**[0005]** The wiping control member may comprise a rod extending in a generally transverse direction. A distal portion of the control member may comprise the water supply conduit and may carry the porous member at a distal end of the control member.

**[0006]** The toilet may also include a drying device comprising a drying element, such as a cloth or absorbent paper, arranged on a drying control member mounted to the wall of the toilet, the drying control member including a handle protruding from the toilet. The drying element may alternatively comprise a nozzle for emitting warm air.

**[0007]** The wiping control member and/ or the drying control member may be slidable through an opening in the wall of the toilet, such that the porous member and/ or the drying element, respectively, can be moved, using the respective handle, from a position adjacent the wall to a central position, and retracted again to the position adjacent the wall. The or each control member may be pivotable at the toilet wall. In particular, it may be rotatable about its own axis and pivotable about two further orthogonal axes. This may be achieved by a ball, including a transverse passage through which the control member is slidable, and rotatable within a part-spherical mounting in the toilet wall.

**[0008]** In one embodiment, the water supply conduit is connected to a source of hot water and a source of cold water. A flexible hose may connect the water supply conduit to one or two taps which may be located on a rear part of the toilet.

**[0009]** A soap dispenser may be arranged to introduce liquid soap into the water supplied to the water supply conduit.

**[0010]** The or each handle may extend in line with the control member, below a seat of the toilet. Alternatively, particularly for users whose movement is restricted, the

handle may extend upwardly above the seat.

Brief Description of the Drawings

5 **[0011]** The invention will now be described in more detail, by way of example only, with reference to the accompanying drawings, in which:

10 Figure 1 is a section of a toilet bowl according to the invention, viewed from the front, with the wiping control member retracted; and

15 Figure 2 is a fragmentary plan of the toilet bowl of Figure 1, with the wiping control member deployed.

Detailed Description of Particular Embodiments

20 **[0012]** The drawings show a toilet bowl 1 of generally conventional shape, except that circular apertures are provided on either side to accommodate the hygiene device and the drying device respectively.

25 **[0013]** Upper and lower mountings 2 engage respective upper and lower parts of each aperture. Each of the mountings 2 includes a part-spherical inwardly-facing surface. A ball 3, having an internal bore, is lodged between the two mountings 2, for example by snap-fitting.

30 **[0014]** A wiping control member 4 of the hygiene device comprises a rigid supply pipe 5 extending slidably through the bore of one of the balls 3, and a handle 6 at the outer end of the control member. The distal end of the pipe 5 is open or perforated and carries a bottom-wiping sponge 7. In this example the sponge is generally spherical, but other shapes are possible, e.g. cylindrical, disc-shaped or irregular, and other porous members such as a perforated pad or brush could be used instead of the sponge 7. Optionally, the sponge or other member can be retained on the pipe 5 by means of a recess in the sponge elastically stretchable over the end of the pipe. The sponge or other member could be removable and replaceable.

35 **[0015]** A flexible hose 8 communicates with the supply pipe 5 adjacent the handle 6. Hot and cold water are supplied to the hygiene device through the hose 8 by means of taps 9. In this example the taps are shown mounted on the rear of the toilet bowl 1. Alternatively, the taps could be provided separately from the toilet.

40 **[0016]** A drying control member 10 of the drying device extends through the bore of the other ball 3, and has a handle 11 at its outer end. The distal end of the drying control member 10 carries a drying element 12, such as a cloth or absorbent paper, which may be removable and replaceable. The mounting of the drying control member 10 is above the outlet from which flushing water flows into the toilet bowl, to prevent wetting of the drying element 12.

45 **[0017]** Figure 1 shows the control members 4,10 in their retracted position, which allows normal use of the toilet. The user then opens the taps 9 to supply water of

a preferred temperature to the sponge 7. Using the handle 6, the user slides the wiping control member 4 through the ball 3 to the position shown in Figure 2. The handle 6 can be used to move the sponge forwards, backwards, up and/or down as required, and to rotate it about the axis of the control member for bottom-cleaning.

**[0018]** The water running through the sponge 7 will keep it clean. After use, the taps are closed and the hygiene device is returned to the position shown in Figure 1.

**[0019]** The user then uses the other handle 11 to slide the drying control member 10 inwardly. As with the handle 6, the handle 11 can be used to move the drying element 12 forwards, backwards, up and/or down as required, and to rotate it about the axis of the control member for bottom-drying.

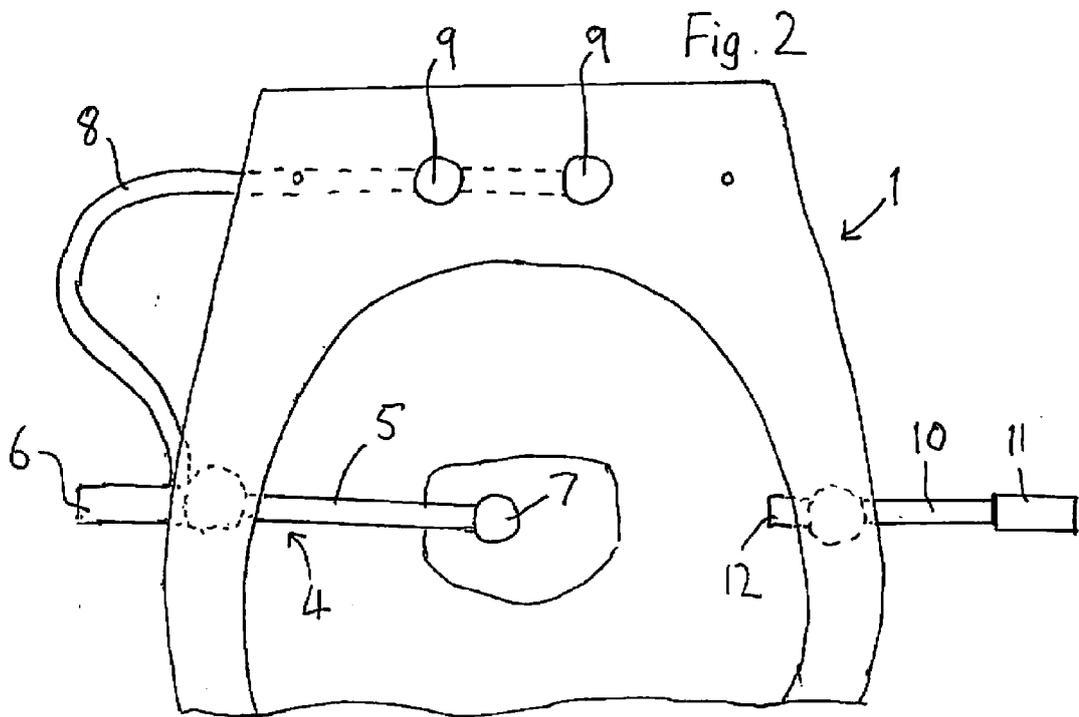
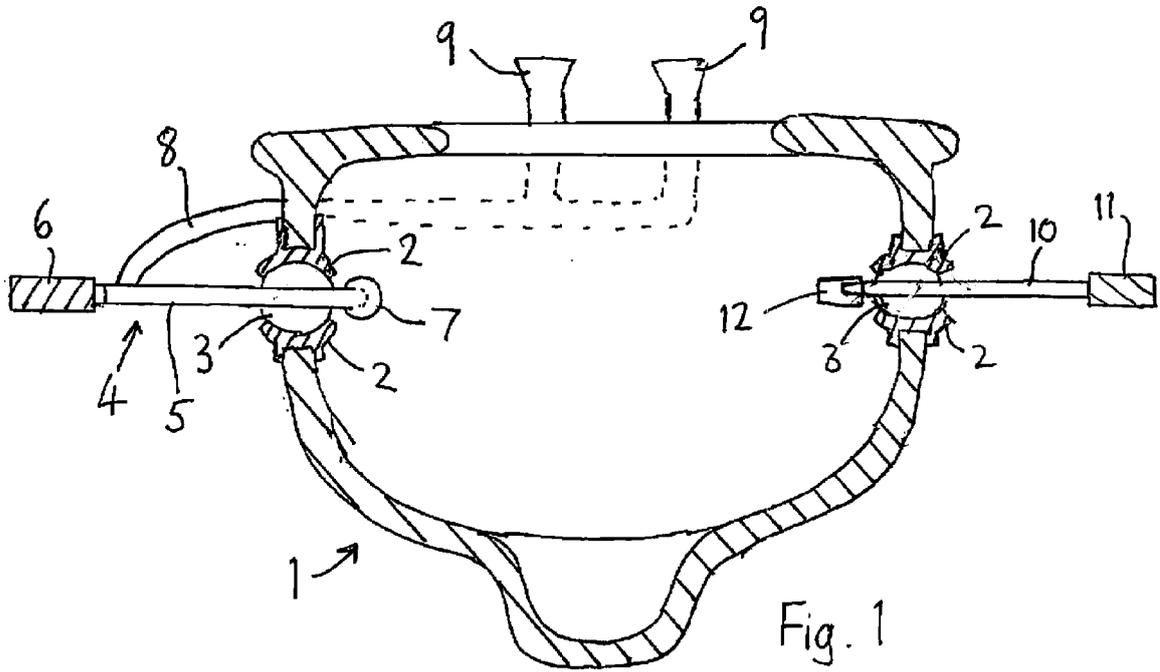
**[0020]** In an alternative embodiment (not shown), the drying control member comprises an air conduit connected to a heating and blowing device, and terminates in a nozzle for emitting warm air for drying.

**[0021]** In the embodiment shown, the handles 6, 11 extend in line with their respective control elements 4, 10. In an alternative embodiment (not shown), suitable for users of restricted mobility, the handles extend vertically to a level above the toilet seat.

**[0022]** In the embodiment shown, mains water is supplied to the hygiene device. Optionally, a reservoir for liquid soap can be provided, communicating with the flexible hose, so as to supply soapy water to the sponge or other porous member. A valve can be provided to terminate the supply of soap so as to allow selection between soapy water and clean water, e.g. for rinsing.

## Claims

1. A toilet including a hygiene device comprising a porous bottom-wiping member (7) arranged on a wiping control member (4) mounted to a wall of the toilet, the wiping control member including a handle (6) protruding from the toilet, and a water supply conduit (5, 8) connected to the porous member (7) for supplying water thereto.
2. A toilet according to claim 1, wherein the porous member (7) is in the form of a brush or a sponge.
3. A toilet according to claim 1 or 2, wherein the wiping control member (4) comprises a rod (5) extending in a generally transverse direction.
4. A toilet according to claim 1, 2 or 3, wherein a distal portion of the wiping control member (4) comprises the water supply conduit (5).
5. A toilet according to claim 4, wherein the wiping control member (4) carries the porous member (7) at a distal end of the wiping control member.
6. A toilet according to any preceding claim, including a drying device comprising a drying element (12) arranged on a drying control member (10) mounted to the wall of the toilet, the drying control member including a handle (11) protruding from the toilet.
7. A toilet according to claim 6, wherein the drying element (12) comprises a fabric or paper.
8. A toilet according to claim 6, wherein the drying element comprises a nozzle for emitting warm air.
9. A toilet according to any preceding claim, wherein the wiping control member (4) and/or the drying control member (10) is/are slidable through an opening in the wall of the toilet, such that the porous member (7) and/or the drying element (12) can be moved, using the handle (6, 11), from a position adjacent the wall to a central position, and retracted again to the position adjacent the wall.
10. A toilet according to any preceding claim, wherein the respective control member (4,10) is pivotable at the toilet wall.
11. A toilet according to claim 10, wherein the respective control member (4, 10) is rotatable about its own axis and pivotable about two further orthogonal axes.
12. A toilet according to claim 11, including a ball (3) having a transverse passage through which the respective control member (4, 10) is slidable, the ball being rotatable within a part-spherical mounting (2) in the toilet wall.
13. A toilet according to any preceding claim, wherein the water supply conduit (5, 8) is connected to a source of hot water (9) and a source of cold water (9).
14. A toilet according to any preceding claim, including a soap dispenser, arranged to introduce liquid soap into the water supplied to the water supply conduit.
15. A toilet according to any preceding claim, wherein the or each handle extends upwardly above a seat of the toilet.





EUROPEAN SEARCH REPORT

Application Number  
EP 14 19 7328

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			TECHNICAL FIELDS SEARCHED (IPC)
			A47K E03D
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 7 April 2015	Examiner Flygare, Esa
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	

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EPO FORM 1503 03/82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT  
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EP 14 19 7328

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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.

07-04-2015

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