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(54) **A sanitary appliance combining a bidet with a water closet**

(57) A bowl (3) having a bidet function is hinged about a first horizontal axis (x^l) on a seating plane (s) of a water closet (2). The bowl (3) comprises: a cabinet (4) arranged above and behind the water closet (2), which cabinet (4) comprises a front chamber (5) predisposed for internally housing the bowl (3), a panel (6) associated to the cabinet (4) and mobile between a position in which it closes the chamber (5) and a position in which the chamber (5) is open.

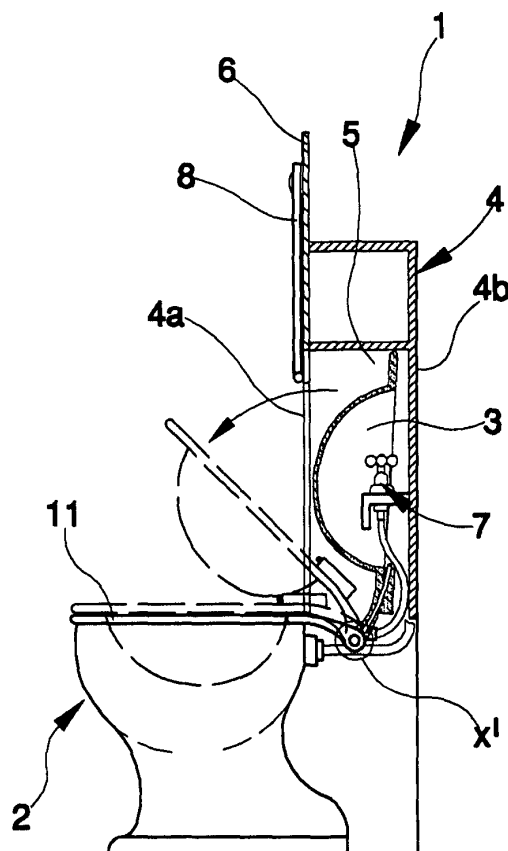


Fig. 1c

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Description

[0001] The prior art teaches bidets in combination with water closets, usually in small bathrooms or bathrooms which were originally furnished without bidets and where it is desired to install one.

[0002] Bidets of this type are essentially constituted by a bowl which is associated to the water closet in such a way as to be insertable therein. A tap is connected to the water closet which takes water from the municipal supply or from the flush cabinet of the wc itself. The water poured into the bidet bowl is then discharged into the underlying toilet through discharge holes made in the bottom of the bowl.

[0003] The bidet is hinged to the wc about a horizontal axis thereof so as to be rotatable between an "inactive" position in which the wc is free for its normal use, and an active position in which the bowl is housed in the wc and can be used as a bidet. In some solutions the bowl can be hinged laterally with respect to the wc, while in others the bowl is hinged to the wc in the same way as a cover, being rotatable between a raised position in which it rests against the cabinet of the wc and a lowered position in which it is inserted in the wc.

[0004] Prior-art bidets combined with water closets exhibit some drawbacks. Firstly, the bidet, in the inactive position, remains visible at all times, with a resultingly unpleasant aesthetic effect. It also adds extra bulk to the wc and the cabinet, which can be impractical during use.

[0005] The main aim of the present invention is to obviate the drawbacks in the prior art by providing a sanitary appliance combined with a water closet in which the bidet is contained within the volume of the wc and the flush cabinet both during use and when not in use.

[0006] An advantage of the present invention is that the bidet is easy and comfortable to use.

[0007] A further advantage of the invention is that the bidet when not in use is completely removed from the outside environment and is therefore more hygienic.

[0008] Further characteristics and advantages will better appear from the detailed description that follows, of a sanitary appliance with a bidet combined with a water closet, made herein below with reference to the figures of the drawings, given in the form of non-limiting examples, and in which:

figures 1a, 1b and 1c show three views of the appliance of the present invention in a first embodiment thereof;

figures 2a, 2b, 2c are three views of the appliance of the present invention in a second embodiment thereof;

figures 3a, 3b and 3c are three views of the appliance in a third embodiment thereof.

[0009] With reference to the figures of the drawings, 1 denotes in its entirety a sanitary appliance in which a bidet is combined with a water closet, according to the

present invention. The appliance is of a type in which a bidet bowl 3 is hinged above a first horizontal axis x1 on the horizontal seating plane s of a wc 2, the bowl having a bidet function. The bidet bowl 3 is rotatable between a closed position, in which it is housed in the toilet bowl of the pedestal of the water closet 2, and an open position, which is about perpendicular with respect to the closed position, in which open position it is external with respect to the toilet bowl of the water closet 2.

[0010] The sanitary appliance comprises a flush cabinet 4, arranged above and posteriorly of the pedestal of the water closet 2, in which a chamber 5 is predisposed to house the bidet bowl 3 internally thereof when the bidet bowl 3 is in the open position. In the open position, the bidet bowl 3 is completely contained in the front chamber 5 and is totally within the plane of the flush cabinet 4. The sanitary appliance also comprises a panel 6 associated to the cabinet 4 which is mobile between a position in which it closes the chamber 5 and another position in which the chamber 5 is open. The appliance further comprises at least one tap 7, arranged internally of the chamber 5 in such a position as not to interfere with the bidet bowl 3 when the bowl 3 is in the open position thereof. The tap 7 is predisposed to send water into the bidet bowl 3 when the bidet bowl 3 is in the closed position and is arranged in a central position in the chamber 5 so that when the bidet bowl 3 is in the open position, i.e. located in the chamber 5, the tap 7 is arranged within the concavity of the bidet bowl 3.

[0011] The cabinet 4 is parallelepiped and exhibits a front face 4a and a back face 4b which are about parallel and vertical. The chamber 5 is open on the front face 4a and is comprised between the front and back faces 4a and 4b. In a first embodiment, illustrated in figures 1a, 1b and 1c, the panel 6 is slidable on the front face 4a by means of two parallel guides 22 between an upper position, in which the chamber 5 is open, and a lower position in which the panel 6 is in front of and closes the chamber 5. The panel 6 has a screening function, and is raised into the upper position in order for access to be gained to the bidet bowl 3 so that the bidet bowl 3 can be rotated into the closed position, then being re-closed when the bidet bowl 3 has been used and brought back into its stowed position inside the chamber 5. In a second embodiment of the invention, illustrated in figures 2a, 2b and 2c, the panel 6 is hinged along an upper edge thereof to the front face 4a and is rotatable by 180° between an upper position, in which it is against the front face 4a and the chamber 5 is open, and a lower position, in which the panel 6 is arranged in front of the chamber 5, closing it. In a third embodiment of the invention, illustrated in figures 3a, 3b and 3c, the panel is in the shape of a box cover 6', and is hinged along an upper edge thereof to an upper edge of the front face 4a. The box cover 6' is rotatable by 180° between a lower position, in which it is against with the front face 4a and closes the chamber 5, and an upper position in which it is arranged above the cabinet 4.

[0012] A toilet lid 8 is associated to the panel 6 and is hinged along a second horizontal axis XII thereof, along a lower edge of the panel 6. The cover 8 is rotatable between a raised position, in which it is against the panel 6, and a lowered position, in which it is horizontal and, when the panel 6 is in the lower position, rests on the toilet seat of the water closet 2. When the panel 6 is in the lower position, whether it is slidable on the front face 4a or whether it is hinged thereto, the lid 8 has the normal water closet lid function.

[0013] The bidet bowl 3 exhibits a flat annular surface 3a which extends externally along the edge thereof 3. The surface is predisposed to rest on the edge of the water closet 2 on a same level as the seat s when the bidet bowl 3 is in the closed position. A drain hole 3b is afforded on the bottom of the bidet bowl 3 for discharge of used liquids from the bidet bowl 3 into the bowl of the wc 2 when the bidet bowl 3 is in the closed position.

[0014] The cabinet 4 is in fluid communication with the wc 2 and internally contains a liquid. Apart from housing the bidet bowl 3 in the open position thereof, it has the function of a usual flush cabinet for the water closet 2 and comprises means for flushing away the liquid contained in the bowl of the water closet 2 itself. For greater ease of use of the bidet, the cabinet 4 is transversally narrowed at a lower portion thereof located in proximity of the water closet 2. The water closet 2 also comprises a usual toilet seat 11 hinged about a third horizontal axis XIII which is parallel to the hinge axis of the bidet bowl 3. The toilet seat 11 is predisposed to rotate between a lowered position, in which it rests on the edge of the water closet 2, and a raised position in which it rests on the front face 4a of the cabinet 4. The toilet seat 11 is arranged so that when it is in the lowered position either the flat annular surface 3a of the bidet bowl 3 (when the bowl 3 is in the closed position), or the lid 8 when the panel 6 is in the lowered position, rests thereon. The sanitary appliance of the present invention looks practically the same as a normal water closet, and is of around the same dimensions. The bidet, when not in use, can be completely hidden in the chamber 5 of the cabinet, and thus does not constitute extra bulk. Accessibility to the bidet is extremely simple and practical, as is its positioning into the operative configuration and its use. The sanitary appliance does not require an extra discharge in addition to the normal one for the wc, as the bidet is in fluid communication with the water closet flush discharge. Should there exist special needs or problems of space, the tap can be directly connected to the flush cabinet, thus eliminating any piping needed for water supply.

Claims

1. A sanitary appliance combining a bidet with a water closet of a type in which a bowl (3) having a bidet function is hinged on a seating plane (s) of a water

closet about a first horizontal axis (XI) and is rotatable between a closed position, in which the bidet bowl (3) is housed in the water closet (2), and an open position, in which the bidet bowl (3) is perpendicular with respect to the closed position thereof, and in which the bidet bowl (3) is externally located with respect to the water closet (2), **characterised in that** it comprises a cabinet (4) in which a front chamber (5) is afforded, which front chamber (5) is predisposed to house internally thereof the bidet bowl (3) when the bidet bowl (3) is in the open position; **in that** it further comprises a panel (6), associated to the cabinet (4) and mobile between a position in which the panel (6) closes the chamber (5) and a position in which the chamber (5) is open; **in that** it further comprises at least one tap (7) arranged internally of the front chamber (5) in a position in which the at least one tap (7) does not interfere with the bidet bowl (3) when the bidet bowl (3) is in the open position and is predisposed to dispense water into the bidet bowl (3) when the bidet bowl (3) is in the closed position.

2. The sanitary appliance of claim 1, **characterised in that** the cabinet (4) exhibits a front face (4a) and a back face (4b) which are parallel and vertical and between which the chamber (5) is contained and is open at the front face (4a).
3. The sanitary appliance of claim 2, **characterised in that** the panel (6) is slidable on the front face (4a), on two parallel guides (22), between an upper position, in which the chamber (5) is open, and a lower position, in which the panel (6) closes the chamber (5).
4. The sanitary appliance of claim 2, **characterised in that** the panel (6) is hinged along an upper edge thereof to the front face (4a) and is rotatable by 180° between an upper position, in which it is located against the front face (4a) and the chamber (5) is open, and a lower position, in which the panel (6) is in front of the chamber (5) and closes the chamber (5).
5. The sanitary appliance of claim 2, **characterised in that** the bidet bowl (3), when in the open position thereof, is completely contained within the chamber (5) and therefore is contained within an area of the cabinet (4).
6. The sanitary appliance of claims 3 or 4, **characterised in that** it comprises a lid (8), hinged about a second horizontal axis (XII) along a lower edge of the panel (6) and rotatable between a raised position, in which the lid (8) is located flat against the panel (6), and a lowered position, in which the lid (8) is horizontal and resting on the seating plane (s)

of the water closet (2).

7. The sanitary appliance of claim 1, **characterised in that** the bidet bowl (3) exhibits: a flat annular surface (3a) which extends externally along an edge of the bidet bowl (3) and which is predisposed to rest on an edge of the water closet (2) corresponding to the seating plane (s) thereof; a drain hole (3b) afforded in a bottom of the bidet bowl (3) for discharging liquids from the bidet bowl (3) into the water closet (2) when the bidet bowl (3) is in the closed position. 5 10

8. The sanitary appliance of claim 2, **characterised in that** the cabinet (4) is in fluid communication with the water closet (2) and contains liquid there-within, and comprises means for discharging the liquid into the water closet (2) in a same way as a known flush mechanism for water closets. 15 20

9. The sanitary appliance of claim 2, **characterised in that** the cabinet (4) is narrower in a lower portion thereof situated in proximity of the water closet (2).

10. The sanitary appliance of claim 1, **characterised in that** the at least one tap (7) is arranged in a central position inside the chamber (5) in such a way as to be arranged internally of a concavity of the bidet bowl (3) when the bidet bowl (3) is in the open position thereof. 25 30

11. The sanitary appliance of claims 6 and 7, **characterised in that** the water closet (2) comprises a usual toilet seat (11), hinged about a third horizontal axis (XIII) which is parallel to the hinge axis of the bidet bowl (3), which toilet seat (11) is predisposed to rotate from a lowered position thereof, in which it rests on the edge of the water closet (2), and a raised position in which it rests against the front face (4a) of the cabinet (4); the toilet seat (11) being arranged in such a way that when it is in the lowered position thereof the flat annular surface (3a) of the bidet bowl (3) can rest there-upon when the bidet bowl (3) is in the closed position thereof, or the lid (8) can rest there-upon when the panel (6) is in the lower position thereof and the lid (8) in the lowered position thereof. 35 40 45

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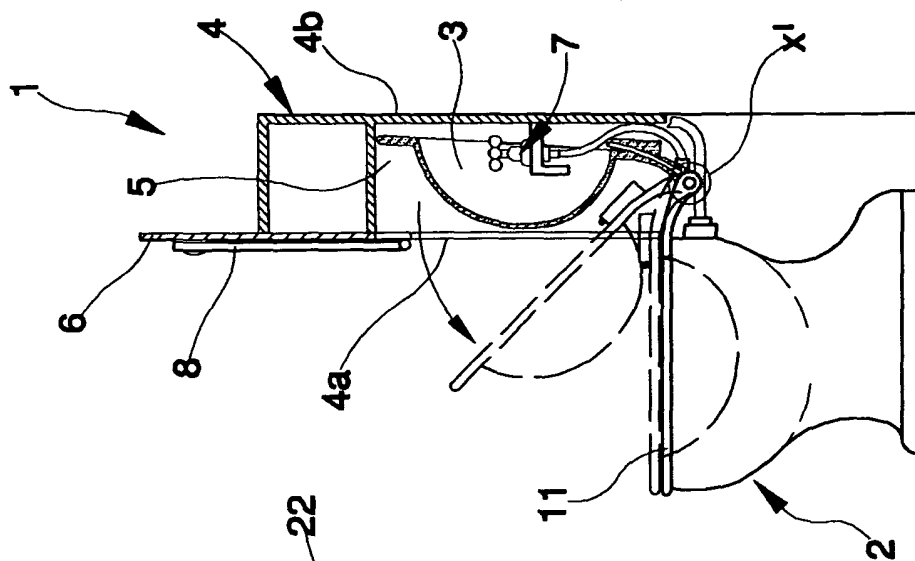


Fig. 1a

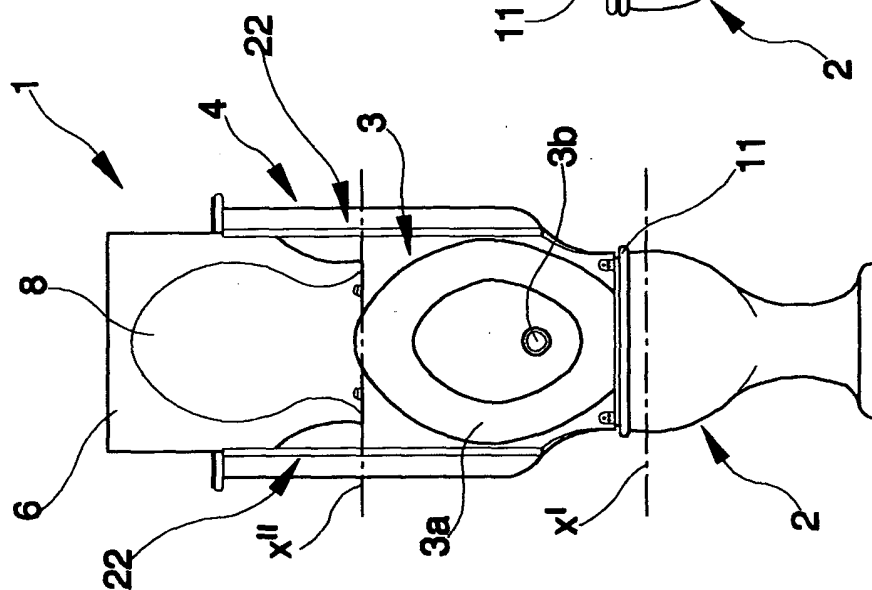


Fig. 1b

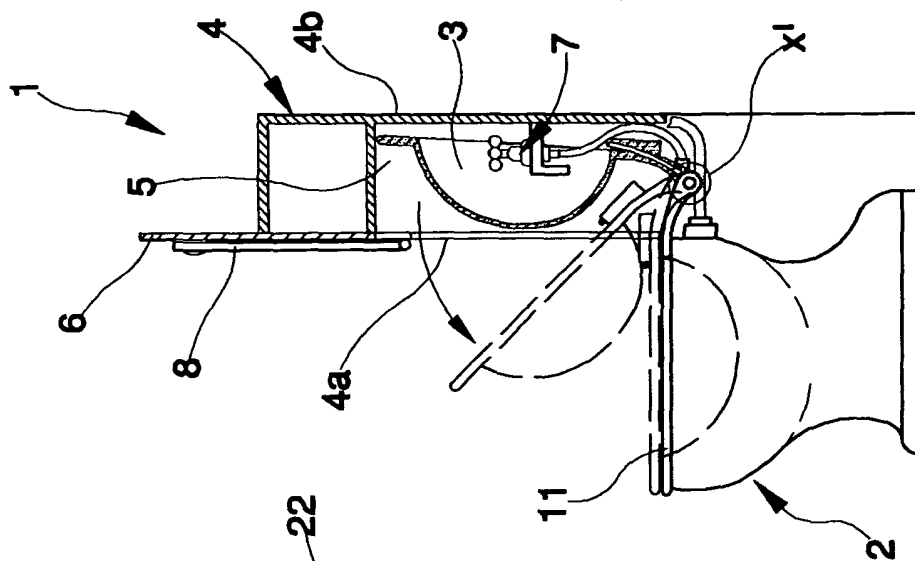


Fig. 1c

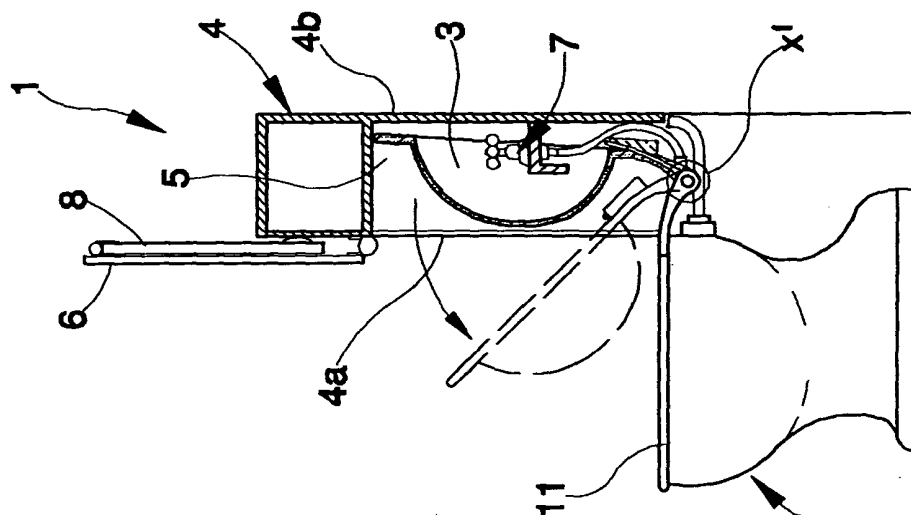


Fig. 2c

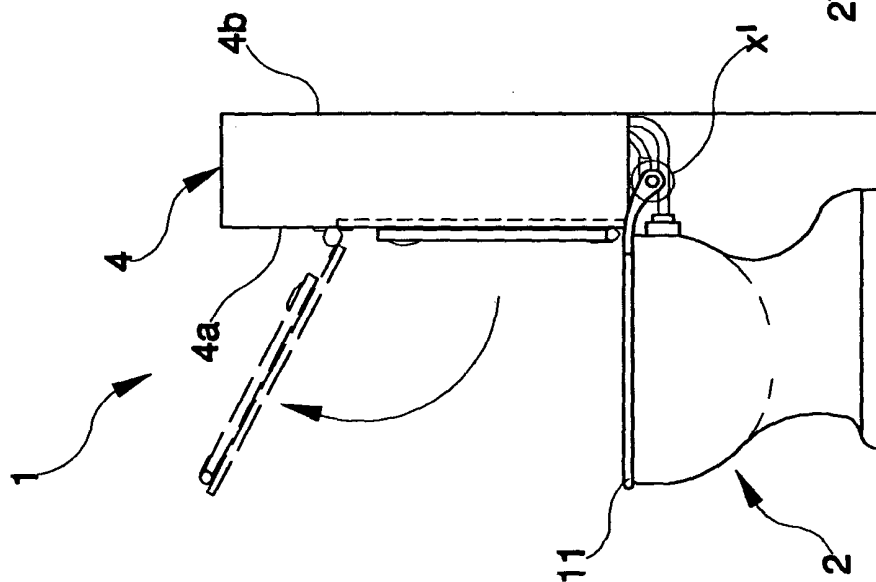


Fig. 2b

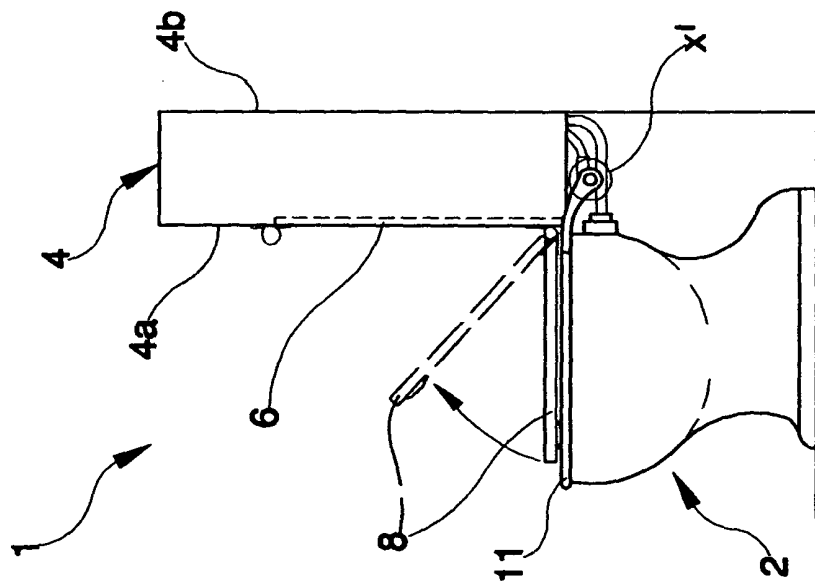


Fig. 2a

