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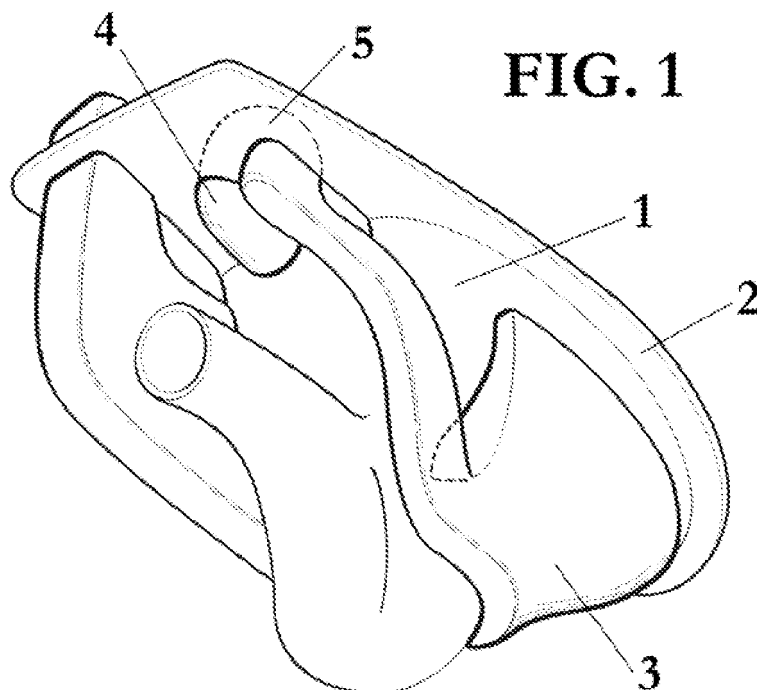
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(54) **Toilet**

(57) The toilet comprises a bowl (1) with an upper rim (2) and a water tank (3), so that the water in said tank (3) can be flushed to said bowl (1) through said upper rim (2), and it is characterised in that said water tank (3) is placed around the external surface of said bowl (1), under the height defined by the upper rim (2) of said bowl

(1). Said water tank (3) has advantageously a shape complementary to the external surface of said bowl (1).

It permits to use a conventional toilet in shape and compact dimensions and the tank is placed in a way that during the normal use of the toilet is not seen. It permits to save space.



Description

[0001] The present invention refers to a toilet, whose water tank is integrated in the toilet bowl itself.

BACKGROUND OF THE INVENTION

[0002] The toilets comprise a water tank where is stored the water that will be discharged to the toilet bowl when its flushing is driven.

[0003] Long time ago the water tanks of the toilets were placed elevated at a distance from the upper part of the toilet bowl. This position was provided to use the gravity to flush the water to the toilet bowl.

[0004] Later, the toilet tanks were placed typically just above the height defined by the upper part of the toilet bowl, integrated inside a wall or placed on the rear part of the toilet bowl.

[0005] In the last years some investigations have been carried out about the possibilities of integrating the water tank in the toilet bowl itself. This position makes the geometry of the toilet better, and it permits not to place the toilet adjacent to a wall.

[0006] This kind of toilets, with the tank integrated in the toilet bowl have the main drawback that the tank occupies a great space and, therefore, it limits the design of the toilet, which must house said tank. This makes the external design of the toilet not attractive and bulky. Furthermore, this means that the toilet bowl must be designed again, and the current designs of toilet bowls cannot be used any more.

[0007] Therefore, it is apparent the need for a toilet with an integrated water tank and, at the same time, it permits to use the current toilet designs, so that it can be chosen if the bowl has an incorporated tank or an external tank in a conventional way.

DESCRIPTION OF THE INVENTION

[0008] With the toilet of the invention said drawbacks can be solved, presenting other advantages that will be described.

[0009] The toilet of the present invention comprises a bowl with an upper rim and a water tank, the water can be flushed from said tank inside said bowl through said upper rim, and it is characterised in that said water tank is placed around the external surface of said bowl, below the height defined by the upper rim of said bowl.

[0010] Thanks to this feature, the toilet bowl can be conventional and the tank is an external addition that during the normal use of the toilet is hardly visible. Furthermore, it permits to obtain advantages regarding the space savings.

[0011] Advantageously, said water tank has a complementary shape with the external surface of said bowl.

[0012] Preferably, said water tank is placed around said bowl at least on its frontal parts and/or its sides.

[0013] Said water tank can be attached to the external

surface of the bowl, or said water tank can be made from a single piece with said bowl, and in this case said water tank and said bowl are made from a ceramic material. However, it must be pointed out that the tank could also be made from a plastic material.

[0014] If wished, in the toilet of the present invention said water tank can be coated with a external housing. Preferably, said housing is made from a single piece with the water tank and with the bowl, and said housing can be made from ceramic material, or it can be made from any suitable material, such as plastic material.

[0015] To fulfil the regulations and to prevent the return of the toilet water to the mains, said water tank comprises advantageously a water outlet provided with a tube placed above the height defined by said upper rim.

[0016] Advantageously, the toilet according to the present invention also comprises a flushing element that blows air or drives water for flushing water from the tank to said bowl. Therefore, the quantity of water that passes from the water tank to the bowl can be regulated with accuracy, just regulating the operation time of the flushing element.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017] For a better understanding of what has been described some drawings are attached in which, diagrammatically and only as a non-limitative example, an embodiment is shown.

Figs. 1 and 2 are perspective views of a first embodiment of the toilet of the present invention;
Figs. 3 and 4 are side elevation views of said first embodiment of the toilet of the present invention; and
Fig. 5 is a lower plan view of said first embodiment of the toilet of the present invention.

DESCRIPTION OF A PREFERRED EMBODIMENT

[0018] In the present description and in the claims the term "toilet" is used to define a toilet as a whole, i.e. a water tank and a bowl.

[0019] As used herein "water tank" means the tank that houses the water that will be flushed each time the user wants, and "bowl" means the part of the toilet that receives the water from the tank. The bowl comprises an internal surface that receives the water and an external surface around which, according to the invention, the water tank is placed, as defined in claim 1.

[0020] As shown in Figs. 1-5, the toilet of the present invention comprises a bowl 1 provided with an upper rim 2 and a water tank 3.

[0021] According to the invention, said water tank 3 is placed around said bowl 1 and below the height defined by said upper rim 2.

[0022] Said water tank 3 has an internal shape complementary with the external shape of said bowl 1, so that the available space around said bowl 1 can be used.

[0023] This arrangement of the tank water 3 permits, on one hand, to use the current models of toilet bowls 1, preventing the design of different toilet bowls when the tank is incorporated to them and, on the other hand, the space that occupies the tank external to the bowl is removed. Furthermore, the visual impact of the water tank 3 around the bowl 1 is minimum, because it is placed below the upper rim 2 of the toilet bowl 1.

[0024] Preferably, the water tank 3 is made from a single piece with the toilet bowl 1, from ceramic material, so that they are manufactured together during the manufacturing process of the toilet. However, it must be pointed out that the water tank 3 can be just attached in any suitable way to the external surface of said bowl 1. In this case, the tank 3 could also be made from plastic material.

[0025] The toilet of the present invention also comprises a water outlet 4, which is connected to the water tank 3 by a tube 5 placed above said upper rim 2. Said tube is necessary to fulfil the requirements of the regulations, so that the input of the water from the bowl inside the water tank and the return to the water mains are prevented.

[0026] As the water tank 3 is placed at the same height than the toilet bowl 1, it is not possible a flushing by gravity, as in the conventional toilets. To solve this matter, the toilet of the present invention comprises a flushing element, preferably an air injection element 6, that injects pressurized air so that the water inside the tank 3 is flushed to the bowl 1 by water outlets provided in said upper rim 2.

[0027] However, it must be pointed out that the water flushing can be done in any suitable way, providing the necessary power, such as e.g. by an hydraulic pump, an air blower, a pneumatic piston, etc.

[0028] Furthermore, the volume of water that is flushed at once can be regulated with a greater accuracy than in the current toilets, because it is just necessary to regulate the operation time of the water flushing element.

[0029] It must be pointed out that the shape of the water tank 3 of the toilet of the present invention can be any shape, if the requirement of being placed around the external surface of the bowl 2 is fulfilled.

[0030] It must also pointed out that, even though it has not been shown in the drawings for simplicity reasons, in the toilet of the present invention said water tank 3 can be coated with a external housing. Preferably, said housing is made from a single piece with the water tank 3 and with the bowl 1, and the housing can be made from a ceramic material, or from any suitable material, such as e.g. plastic material.

[0031] Even though reference is made to a specific embodiment of the invention, it is apparent for a person skilled in the art that the described toilet is susceptible of numerous variations and modifications, and that all the details cited can be substituted by other technically equivalent ones, without departing from the scope of protection defined by the attached claims.

Claims

1. Toilet comprising a bowl (1) with an upper rim (2) and a water tank (3), so that the water in said tank (3) can be flushed to said bowl (1) through said upper rim (2), **characterised in that** said water tank (3) is placed around the external surface of said bowl (1), below the height defined by the upper rim (2) of said bowl (1).
2. Toilet according to claim 1, wherein said water tank (3) has a shape complementary to the external surface of said bowl (1).
3. Toilet according to claim 1, wherein said water tank (3) is placed around said bowl (1) at least on its frontal part and/or its sides.
4. Toilet according to anyone of the previous claims, wherein said water tank (3) is attached to the external surface of the bowl (1).
5. Toilet according to anyone of claims 1 to 3, wherein said water tank (3) is made from a single piece with said bowl (1).
6. Toilet according to claim 5, wherein said water tank (3) and said bowl (1) are made from a ceramic material.
7. Toilet according to anyone of the previous claims, wherein said water tank is coated with a external housing.
8. Toilet according to claim 7, wherein said external housing is made from a single piece with the water tank (3) and with the bowl (1).
9. Toilet according to claim 7 or 8, wherein said external housing is made from ceramic material.
10. Toilet according to anyone of the previous claims, wherein said water tank (3) comprises a water outlet (4) provided with a tube (5) placed above the height defined by said upper rim (2).
11. Toilet according to claim 1, comprising also a flushing element (6) that drives air or water to flush the water from the tank (3) to said bowl (1).

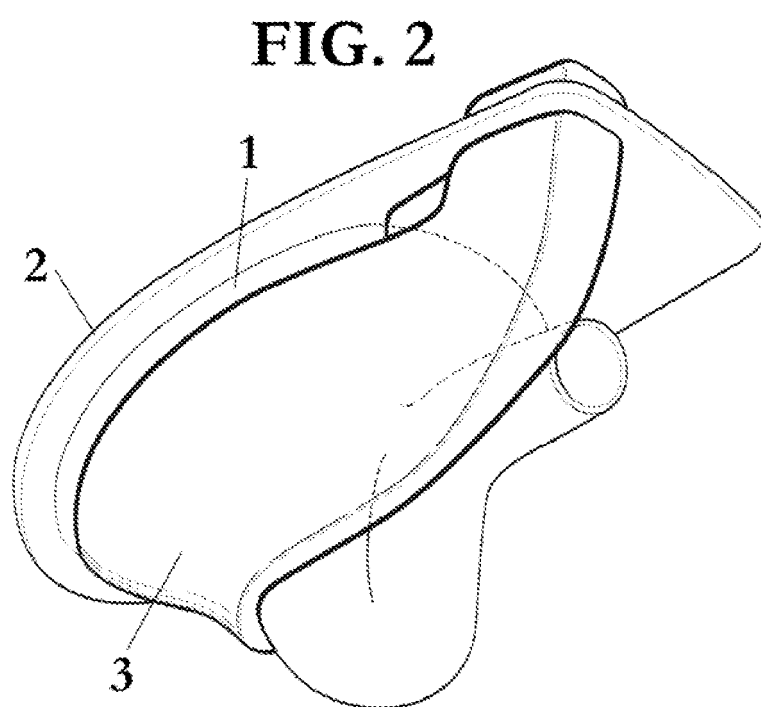
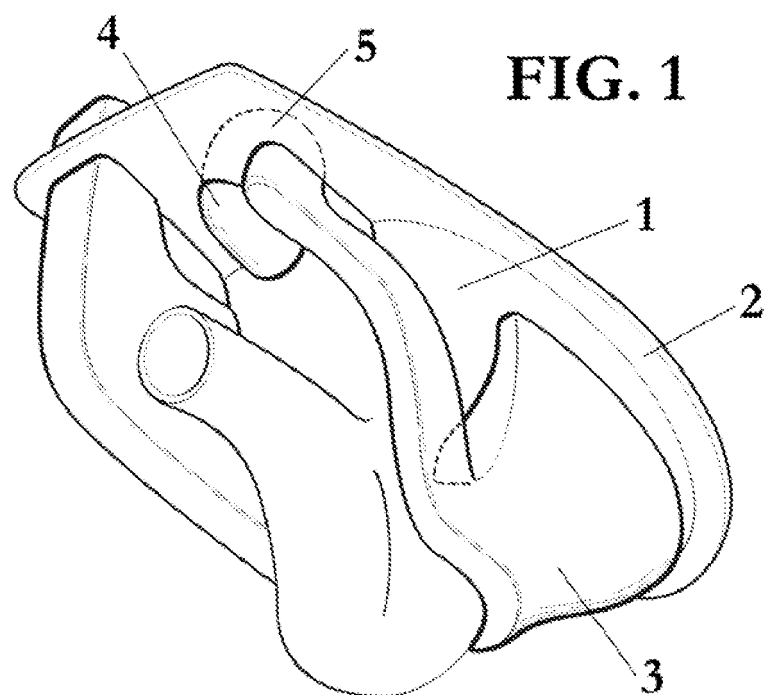


FIG. 3

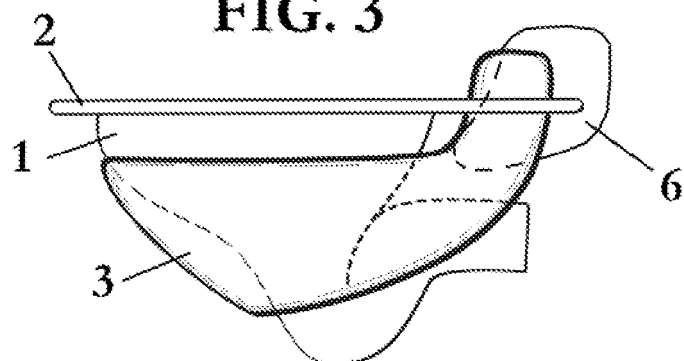


FIG. 4

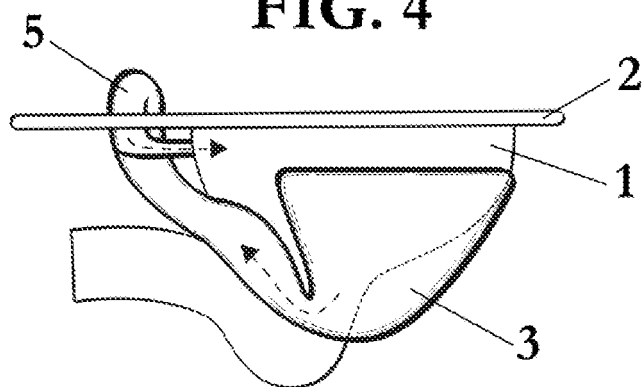


FIG. 5

