Claims

1. A water closet having
a bowl (1) and
a flushing water supply (5, 6) which ends with an entry opening (7) into said bowl (1),
wherein an inner shape of said bowl (1) has, even apart from flushing water afflux openings, if any, an asymmetrical form with respect to a first vertical center plane (M1) and said inner shape of said bowl (1) defines a flow path for said flushing water, which is located deeper on one side of said center plane (M1) than on the other side and which superimposes a downward movement caused by the inner shape of said bowl (1) onto a rotational flushing water movement, thus,
characterized in that said flushing water supply (5, 6) and said entry opening (7) are adapted to allow the flushing water to flow into the bowl (1) with a preponderant tangential velocity component with respect to said inner shape of said bowl (1) and said flushing water to perform a rotational movement in said bowl (1), wherein said inner shape of said bowl (1) shows a smooth transition from the inner faces of said bowl (1) to an upper edge of said bowl (1).

2. The water closet according to claim 1, wherein said entry opening (7) is located behind a second vertical center plane (M2) being perpendicular to said first center plane (M1).

3. The water closet according to claim 1 or 2, wherein the flushing is adapted for a purely gravimetric operation, which means without a flushing water supply pump internally said WC.

4. The water closet according to one of the preceding claims having a static siphon (2).

5. The water closet according to one of the preceding claims having only an upside flushing water supply to said bowl, which means a flushing water supply

without an entry opening below a third horizontal center plane (M3) of said inner shape of said bowl (1) with respect to its total height including a siphon.

6. The water closet according to claim 5 having exactly one entry opening (7) above said third center plane (M3) of said inner shape of said bowl.

7. The water closet according to one of the preceding claims wherein said inner shape of said bowl has, even apart from flushing water afflux openings, if any, an asymmetrical shape being asymmetrical with respect to said first vertical center plane (M1) in such a way that said flow path is, on an average, steeper on that side of said center plane (M1) on which said flow path is located deeper than on the other side.

8. The water closet according to one of the preceding claims having an entry opening (7) for flushing water, which has a height of at least 5 cm.

9. The water closet according to one of the preceding claims, wherein a part of said flushing water supply (5, 6) internally said WC has, along its length up to said entry opening (7), a cross-section of flow of at least 5 cm^2 and said entry opening (7) itself has a cross-section of flow of at least 5cm^2, too.

10. The water closet according to one of the preceding claims, wherein a center line (M4) of a part of said flushing water supply (5, 6) internally said WC has, along its length up to said entry opening (7), radii of curvature of at least 1 cm.

11. The water closet according to one of the preceding claims, wherein said flow path of said inner shape of said bowl (1) is bordered towards the outside by a concave edge (8) which approximately meets a lower end of said entry opening (7) of said flushing water after one circulation around a water level (WS) of a siphon.

12. A use of a water closet according to one of the preceding claims for flushing, wherein said flushing water performs, starting from said entry opening (7) for

said flushing water, a rotational movement around a water level (WS) of a siphon, said rotational movement having a component sloping like a helical line.

13. The use according to claim 12, wherein a quantity of flushing water used for one flushing process amounts to 6 l at maximum.

14. A use of a water closet according to one of the claims 1 to 11 in combination with a cistern, in particular with a concealed cistern, also in combination with the use according to claim 12 or 13.

15. A WC-installation having a water closet according to one of the preceding claims and a cistern, preferably a concealed cistern, which is adapted for a quantity of flushing water limited to 6 l at maximum.

Claims

1. A water closet having

a bowl (1) and

a flushing water supply (5, 6) which ends with an entry opening (7) into said bowl (1),

wherein an inner shape of said bowl (1) has a first vertical center plane (M1), wherein said vertical center plane (M1) is, assuming a conventional mounting in front of a plane wall, perpendicular to this mounting wall and centrically intersects, when said water closet is assumed to be mounted, a drain for the waste water as well as a user assumed to sit upright on the WC, said first vertical center plane (M1) being further oriented perpendicular to a second vertical center plane (M2) which partitions said WC into a front and a rear part,

wherein said flushing water supply (5, 6) and said entry opening (7) are adapted to allow the flushing water to flow into said bowl (1) with a preponderant tangential velocity component with respect to said inner shape of said bowl (1) and said flushing water to perform a rotational movement in said bowl (1),

wherein said inner shape of said bowl (1) shows a smooth transition from the inner faces of said bowl (1) to an upper edge of said bowl (1), namely has no flushing rim, namely no circumferential flushing water channel having entry openings pointing downwards for the influx of said flushing water into said bowl (1),

characterized in that

said inner shape of said bowl (1) has, even apart from flushing water afflux openings, if any, an asymmetrical form with respect to said first vertical center plane (M1) so that said inner shape of said bowl (1) defines a flow path for said flushing water, which is located deeper on one side of said center plane (M1) than on the other side and which superimposes a downward movement caused by the inner shape of said bowl (1) onto said rotational flushing water movement, thus, namely said inner shape of said bowl (1) adding a vertical motion component pointing downwards.

2. The water closet according to claim 1, wherein said entry opening (7) is located behind said second vertical center plane (M2).

3. The water closet according to claim 1 or 2, wherein the flushing is adapted for a purely gravimetric operation, which means without a flushing water supply pump internally said WC.

4. The water closet according to one of the preceding claims having a static siphon (2).

5. The water closet according to one of the preceding claims having only an upside flushing water supply to said bowl, which means a flushing water supply without an entry opening below a third horizontal center plane (M3) of said inner shape of said bowl (1) with respect to its total height including a siphon.

6. The water closet according to claim 5 having exactly one entry opening (7) above said third center plane (M3) of said inner shape of said bowl.

7. The water closet according to one of the preceding claims wherein said inner shape of said bowl has, even apart from flushing water afflux openings, if any, an asymmetrical shape being asymmetrical with respect to said first vertical center plane (M1) in such a way that said flow path is, on an average, steeper on that side of said center plane (M1) on which said flow path is located deeper than on the other side.

8. The water closet according to one of the preceding claims having an entry opening (7) for flushing water, which has a height of at least 5 cm.

9. The water closet according to one of the preceding claims, wherein a part of said flushing water supply (5, 6) internally said WC has, along its length up to said entry opening (7), a cross-section of flow of at least 5 cm^2 and said entry opening (7) itself has a cross-section of flow of at least 5cm^2, too.

10. The water closet according to one of the preceding claims, wherein a center line (M4) of a part of said flushing water supply (5, 6) internally said WC has, along its length up to said entry opening (7), radii of curvature of at least 1 cm.

11. The water closet according to one of the preceding claims, wherein said flow path of said inner shape of said bowl (1) is bordered towards the outside by a concave edge (8) which approximately meets a lower end of said entry opening (7) of said flushing water after one circulation around a water level (WS) of a siphon.

12. A use of a water closet according to one of the preceding claims for flushing, wherein said flushing water performs, starting from said entry opening (7) for said flushing water, a rotational movement around a water level (WS) of a siphon, said rotational movement having a component sloping like a helical line.

13. The use according to claim 12, wherein a quantity of flushing water used for one flushing process amounts to 6 l at maximum.

14. A use of a water closet according to one of the claims 1 to 11 in combination with a cistern, in particular with a concealed cistern, also in combination with the use according to claim 12 or 13.

15. A WC-installation having a water closet according to one of the preceding claims and a cistern, preferably a concealed cistern, which is adapted for a quantity of flushing water limited to 6 l at maximum.