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(54) TOILET SANITISING BLOCK DISPENSER

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Description

[0001] The present invention relates to a sanitising block dispenser for a toilet, and in particular a sanitising block dispenser for use in the cistern of a toilet or urinal.

[0002] Odour control and sanitisation are concerns within the field of toilets and urinals. A common means of odour prevention is to position an anti-bacterial and/or deodorising agent within the toilet or urinal or vicinity thereof. The agent is typically a solid block or 'cake' of disinfectant which dissolves upon contact with urine or water, thus releasing its anti-bacterial and deodorising compounds. The greater the exposure of the block to the liquid, the faster the rate of dissolution.

[0003] In basic use, sanitising blocks are placed directly in the urinal bowl or held over the rim of a toilet. However, in both cases this can be considered unsightly, and can lead to overexposure of the blocks to fluid flow, thereby increasing the rate of dissolution and hence reducing the lifespan of the product. It is also known to place a sanitising block within the cistern of a toilet or urinal such that it dissolves within body of flush water within the cistern and is flushed into the toilet together with the flush water. However, placing a sanitising block in a cistern such that it is completely immersed in the water also results in a rapid dissolution of the block. This has the effect of reducing the lifespan of the block as well as in most cases over dosing the flush water with an excessive and unnecessary concentration of sanitizer.

[0004] It is therefore known to provide dispensing housings for sanitising blocks to hold the blocks within a body liquid such as a toilet cistern and control the exposure of the blocks to the liquid. However, such dispensers require frequent maintenance to check whether the contained block has been fully dissolved and if so to replace the block. Frequent maintenance periods significantly increase the cost of a maintenance contract, as does the requirement to regularly replace or repair components within such dispensers.

[0005] US2011/209277, US5946739 and EP1840281 each provide a housing for dispensing toilet sanitising blocks into water. Little or no control on the contact between the blocks and the water is provided.

[0006] It is therefore desirable to provide an improved sanitising block dispenser which addresses the above described problems and/or which offers improvements generally.

[0007] According to the present invention there is provided a toilet sanitiser according to claim 1.

[0008] In an embodiment of the invention there is provided a toilet sanitiser comprising a toilet sanitising block dispenser comprising a housing comprising at least one wall defining an enclosure configured to receive a plurality of toilet sanitising blocks, the housing including a dispensing section configured to receive one of said plurality of sanitising blocks, the dispensing section includes at least one aperture configured to permit the ingress of fluid into the dispensing section to cause the dissolution

of sanitising blocks contained therein, and the housing is arranged to bias the sanitising blocks contained therein towards the dispensing section such that once a first block has dissolved within the dispensing section it is automatically replaced by the block that is immediately above it. Due to the vertical orientation of the housing the blocks are biased to the dispensing section due to gravity under their own weight. In this way, as the sanitising block contained within the dispensing section is dissolved over time the additional blocks within the housing are moved into position within the dispensing section to automatically replace the dissolved block. Hence the maintenance periods for the dispenser are significantly increased with maintenance only being required once all of the blocks have been dissolved.

[0009] Preferably the at least one wall of the housing defines a tubular enclosure configured to slidably receive said plurality of sanitising blocks and hold them in a stacked arrangement. In this way the blocks are held in alignment above the dispensing section and slide easily and sequentially into position. The tubular configuration, and the provision of a close tolerance between the blocks and the inner tube wall minimises water ingress into the storage section of the housing and therefore prevents early dissolution of the stored blocks.

[0010] An upper part of the tubular enclosure may define a storage section and a lower part of the tubular enclosure defines the dispensing section such that when the housing is oriented substantially vertically in use the blocks contained therein are biased downwardly towards the dispensing section. By providing the dispensing section in a position vertically below the storage section and having a common axis, the blocks freely slide into position within the dispensing section under the action of gravity, thereby obviating the requirement for mechanical biasing means and minimising parts and cost as well as reducing maintenance requirements.

[0011] The housing may include a connection means for attaching the housing to a liquid containing vessel. The connection means preferably comprises a hook portion which is configured to enable the dispenser to be hooked over the rim of a toilet cistern or to another appropriate attachment point. Other alternative attachment means may be provided to ensure that the housing is maintained in a position in which at least the dispensing section is suspended with the body of water held in the vessel.

[0012] The lower end of the housing is open to permit to permit the insertion of said sanitising blocks into the housing and a closure member arranged to close said opening. The closure member is configured to hold the blocks within the housing and prevent their release.

[0013] The closure member may comprise a cap having a base and a side wall arranged to connect to and close the lower end of the housing, wherein the cap defines at least a portion of the dispensing section. The at least one aperture may be formed within the cap.

[0014] The at least one aperture may comprise an

elongate slot formed in the side wall of the cap. The elongate slot preferably extends through the base of the cap. In this way, the base and side walls of the blocks are contacted by liquid simultaneously.

[0015] The at least one aperture may terminate at a position spaced from the upper edge of the cap. This ensures that the upper edge of the cap is uninterrupted to ensure no liquid ingress at the point of connection between the housing and the cap.

[0016] The toilet sanitising block dispenser may further comprise locking means for locking the cap relative to the housing. This ensures that the cap remains in position longitudinally relative to the housing when supporting the weight of the blocks in a vertical position.

[0017] The at least one aperture may comprise a plurality of apertures positioned at circumferentially spaced locations. The number and size of the apertures may be selected to define the dissolution rate of the blocks.

[0018] The present invention will now be described by way of example only with reference to the following illustrative figures in which:

Figure 1 shows a toilet sanitising block dispenser according to the present invention;

Figure 2 is a section view of the dispenser of Figure 1;

Figure 3 is an exploded view of a toilet sanitising block dispenser according to another embodiment of the invention; and

Figure 4 is an enlarged view of the upper part of the dispenser of Figure 3;

Figure 5 is a section view of Figure 4;

Figure 6 shows a toilet sanitising block dispenser according another embodiment of the present invention; and

Figure 7 is an exploded view of the arrangement of Figure 6.

[0019] Referring to Figure 1 a sanitising block dispenser 1 comprises a housing 2 having a cylindrical wall 4 defining a cylindrical hollow tubular enclosure 6. The cylindrical housing 2 has a longitudinal axis 8 defined along the line A-A as shown in Figure 2. The housing 2 is a moulded or extruded member formed from an impermeable non corrosive material and is preferably formed from a plastic material. The housing 2 has a circular lateral cross section having an inner diameter 10 defined by the inner surface of the wall 4 that is selected to substantially correspond to the diameter of a sanitising block 12. The inner diameter 10 is selected to enable the housing 2 to slidably receive a block 12 in a close clearance fit such that the block 12 is free to slide within the housing 2 while limiting play between the block 12 and the wall 4. The

length of the housing 2 is selected to accommodate a plurality of blocks 12 of conventional thickness, or alternatively a single elongate block of increased length relative to conventional blocks.

[0020] The shape of the cylindrical housing 2 is selected to correspond to and receive the cylindrical sanitising blocks 12 and therefore it will be appreciated that in other embodiments the tubular housing may comprise a cross sectional shape that it not circular and may for example be square to receive for example a corresponding cubic sanitising block, although a square section block may also be received within the circular cross section housing.

[0021] The housing 2 is oriented vertically in use and includes an upper end 14 and a lower end 16. Here the terms 'upper' and 'lower' are relative and refer to the relative positions of the ends when the dispenser 1 is vertically oriented in use. The upper end 14 is closed and sealed by a domed cap 18 that is integrally formed as part of the housing 2. Alternatively the cap 18 may be provided as a separate removable component. The lower end 16 is open and configured to receive the sanitising blocks 12 with the blocks 12 being inserted into the housing 2 through the opening defined in the lower end 16.

[0022] The length of the housing 2 is selected to enable the housing 2 to accommodate a predetermined plurality of blocks 12 of height h within its tubular enclosure. A base cap 20 is provided to close the open end 16 of the housing and hold the blocks 12 within the housing 2. The cap 20 is substantially cup shaped having a cylindrical side wall 22 and a base 24. An upper edge 28 defines an opening to the cap 20. The cap 20 is configured to connect to the lower end 16 of the housing 2 and preferably is configured such that the housing 2 is receivable within the cap 20 such that the upper end of the cap 20 surrounds a portion of the outer surface of the housing 2.

[0023] The cap 20 includes an L-shaped slot 26 having a vertical slot section which extends downwardly from the upper edge 28 defining the opening of the cup and transitions through 90° to a horizontal slot section. The lower end 16 of the housing 2 includes a pair of spigots 30 located at corresponding circumferential positions to the vertical openings to the L-shaped slots 26 of the cap 20 and sized to be received within the slots 26 to locate the cap 20 on the end 16 of the housing 2. Once the spigots 30 have been fully received within the vertical portion the slots 26 the cap 20 is longitudinally locked to the housing 2 by rotating the cap 20 relative to the housing 2 to locate the spigots within the horizontal portions of the slots 26. In this way the base cap 20 is releasably connected to the housing 2.

[0024] The longitudinal locations of the spigots 30 on the housing 2 and/or the length of the vertical portions of the slots 26 sets the distance of the end wall 24 of the cap 20 from the opening edge of the lower end 16 of the housing 2. This distance is preferably selected to be equal to or less than the height h of the blocks 12 such that the lowermost block 12 inserted into the housing 2 is at least partially received within the cap 20 beneath

the lower end 16 of the housing 2 with the vertically adjacent block being located above the lower edge of the housing 2.

[0025] The cap 20 includes at least one dispensing aperture 32 located in the side wall 20. The apertures 32 define openings into the cap 20 permitting open access between the interior of the cap 20 and the body of liquid within which the dispenser is located. At least one aperture 32 is provide and in the embodiment shown in Figures 1 and 2 the cap 20 includes 4 apertures located at regularly spaced circumferential positions. The apertures 32 are longitudinally spaced from the upper edge 28 of the cap 20 and extend to the base 24. Preferably the apertures 32 are substantially rectangular and extend into the base 24 forming scalloped cut always in the base 24.

[0026] The housing 2 includes an attachment clip 36 for attaching the housing 2 to the rim of a toilet cistern. The clip 36 includes a hook portion which hooks over the upper edge of a toilet cistern and is located towards the upper end of a housing 2 with the length of the housing 2 being selected such that when the housing 2 is so clipped to the edge of a toilet cistern the lower end 16 and in particular the cap 20 is submerged within the water of the toilet cistern. In use the cap 20 is removed and a number of toilet blocks 12 are slidingly inserted into the housing 2. When the housing 2 has been filled with the required number of blocks 12 the cap 20 is placed over the lower end 16 and locked in place using the slot 26 and spigot 30 arrangement. The housing 2 is then clipped over the edge of a toilet cistern or other fluid container containing a body of liquid requiring sanitation such that at least the cap 20 is submerged within the body of water. In this position the lowermost block 12 is exposed to the body of water via the apertures 32 in the cap 20.

[0027] When exposed to the liquid in use in this way the blocks 12 begin to dissolve over time. As the blocks 12 dissolve it begins to decrease in size with the height h gradually decreasing over time. As the height h decreases the blocks 12 vertically above the lower most block 12 which is supported on the upper surface of the lower most block 12 begin to slide downwardly under their own weight within the housing 2. In this way as the lower most block 12 reduces in size it is gradually replaced within the cap 20 by the vertically adjacent block 12 immediately above it. This process continues for each block 12 until each of the blocks is replaced and dissolved or the housing 2 is removed from the body of liquid.

[0028] The sanitising block dispenser of the present invention therefore provides a means of storing multiple sanitising blocks within a single dispenser, which are automatically replenished within the cap 20 at the dispensing position following the dissolution of the previous block 12. As such, the maintenance intervals for the sanitising block dispenser may be significantly increased. Furthermore, by providing a dispensing arrangement in which the blocks 12 slide under their own weight within a sealed enclosure the number of parts within the dispenser are

minimised with no mechanical actuating components being required to bias the blocks to the dispensing position. Once all the blocks 12 have been dissolved there may be easily replaced by unclipping and moving the housing 2 from the toilet cistern, unlocking and removing the cap 20 and placing a new set of blocks 12 within the housing 2.

[0029] In an alternative embodiment shown in Figure 3, a single elongate block 112 is provided. The length of the block 112 is selected such that it substantially equal to the distance from the top of the housing 102 to the base of the 124 of the end cap 120. As such, the block 112 substantially fills the sanitising block dispenser 101. In the embodiment shown the block 112 has been configured to have a square cross section, which advantageously reduces contact with the inner surface of the housing 102 to four point contacts, therefore reducing friction between the block 112 and the housing 102 along its length and allowing the block 112 to efficiently slide within the housing. In addition, the square section shape of the block 112 enables the block to be more cheaply and easily manufactured, as well as improving service efficiency as only a single block needs to be replaced rather than multiple blocks having to be inserted into the housing 102.

[0030] The length of the block 112, the housing 102 and the cap 120 is selected such that when the block 112 is initially inserted into the housing 102 a larger portion of the block 112 is received within the housing 102 than within the cap 120. Only the lowermost end portion of the block 112 is exposed to liquid from with the cistern through the apertures 132. As the lowermost portion dissolves, the block 112 begins to slide downwardly within the housing under its own weight to fill the void left within the cap 120.

[0031] As shown in Figure 4, the housing 102 includes a two part attachment clip 136. The clip 136 includes a first cap section 138 which secures to the upper end of the housing 102. In the embodiment shown the cap 138 secures to the housing via recessed sections 140 which receive corresponding lugs 142 extending from the housing 102, although any suitable attachment means could be provided. An adjustable hook section 144 secures to the cap 138. The hook section 144 includes a hook arm 146 that extends over the rim of a toilet cistern and engages the outer surface. A corresponding spring arm 148 is connected to the cap 138 and is biased towards the hook arm 146. The spring arm is arranged to engage the inner surface of the toilet cistern such that the spring arm 148 and hook arm 146 cooperate to clamp against the wall of the toilet cistern, with the wall of the toilet cistern being located in the space between the two elements. The hook section 144 is movably adjustable relative to the cap 138 to vary the distance between the hook arm 146 and the spring arm 148 to accommodate cistern walls of varying thicknesses.

[0032] As shown in the figures 4 and 5, the hook section 144 includes a substantially u-shaped channel 150 which fits over and slidingly receives a corresponding guide

section 152 on the top of the cap 138. The guide section 152 includes a guide channel 154 in its upper surface that receives and guides a corresponding lug 156 projecting downwardly from the upper surface of the channel 150. The inner surface of the channel section 150 includes a downwardly facing saw tooth formation 158 towards its rear edge defining a ratchet. The cap 138 includes an upwardly extending projection 160 defining a pawl for engagement with the ratchet 158. The ratchet and pawl arrangement locks the hook section 144 in position relative to the cap 138 while permitting incremental adjustment of the relative position between the two.

[0033] In an alternative embodiment shown in Figures 6 and 7 a sanitising block dispenser 200 comprises a housing 202 as described above having a cylindrical wall 204 defining a cylindrical hollow tubular enclosure 206. The circular lateral cross section of the housing 202 has an inner diameter 210 defined by the inner surface of the wall 204 that is greater than the diameter d_1 of a sanitising block 12. The inner diameter 210 is selected to enable the housing 202 to slidably receive a plurality of sanitising blocks 212 with a clearance gap defined between the blocks 212 and the inner wall 210, with the blocks 12 being free to slide within the housing. The length of the housing 202 is selected to accommodate a plurality of blocks 212 of conventional diameter.

[0034] The housing 202 is oriented vertically in use. The length of the housing 202 is selected to enable the housing 202 to accommodate a predetermined plurality of blocks 212 of height h_1 within its tubular enclosure. The base cap 220 closes the open end 216 of the housing and hold the blocks 12 within the housing 2.

[0035] The dispenser 201 is preferably connected to the cistern such that only the cap 220 is submerged in the water while the housing 202 is located substantially above the water level. More specifically the dispenser is arranged to be supported such that at least the at least one dispensing aperture 232 submerged. In this way, only the lowermost block 212 held within the cap 220 is submerged, and thereafter as the lowermost block 212 dissolves the lowermost block 212 and a portion of the block 212 immediately vertically adjacent. The housing 202 is substantially in a non-submerged state and filled with air. This submersion depth is set for a known cistern configuration and water depth by the distance between clip and the cap 220. By ensuring only the lowermost block(s) is submerged the dissolution rate is controlled by preventing direct exposure to the liquid of the stored blocks 212 that are not intended for active dissolution.

[0036] As shown Figure 6, additional control of the dissolution rate may be achieved by providing liquid barrier members 231 between each adjacent block 212. The barrier members 231 comprise thin discs formed from an impermeable material, and may be a film or membrane. The barrier discs 231 are located between each adjacent block 212 and have a diameter d_2 that is greater than the diameter d_1 of the blocks but less than the inner diameter 210 of the housing 202. The outer edges of the discs 231

are therefore spaced from the inner wall 210 and able to slide within the housing 202 without interference with the inner wall 210. The discs 231 are circular in shape corresponding to the circular cross section of the blocks 212, but it will be appreciated that discs of other shapes may be utilised where non-circular blocks 212 are employed. The discs 231 provided an impermeable barrier between adjacent blocks 212. This liquid barrier prevents water from the lowermost block 212 from travelling through the stack of blocks 212 by osmosis due to the porosity and permeability of the blocks 212 thereby ensuring that early dissolution of the blocks does not occur making the dissolution rates more controllable and predictable.

[0037] Figure 7 shows an exploded view illustrating how the blocks 212 are interspaced with the barrier discs 231. The discs 231 may be freely stacked between the blocks 212 and inserted together with the blocks 212 on filling of the dispenser 201. As the discs 231 have a diameter d_2 greater than the diameter d_1 of the blocks 212 they may be alternately stacked while ensuring that the outer periphery of the discs extends past the outer edge of the blocks 212 to ensure a complete liquid barrier is created. Alternatively a preformed stack may be formed in which the blocks 212 and barrier discs 231 are pre-stacked and arranged and provided in a single piece form thereby improving the ease of installation.

Claims

1. A toilet sanitiser comprising:

a) a toilet sanitising block dispenser (1) comprising:

a housing (2) comprising at least one wall (4) defining an elongate enclosure (6) configured to receive at least one toilet sanitising block; and a dispensing section contiguous with the housing (2);

b) at least one sanitising block (12) located within the elongated enclosure (6) in the housing (2); the toilet sanitising block dispenser (1) further comprises: the dispensing section being configured to receive at least a portion of said at least one sanitising block (12); and wherein the dispensing section includes at least one aperture (32) configured to permit the ingress of fluid into the dispensing section to cause the dissolution of sanitising blocks (12) contained therein, and wherein the elongated enclosure (6) in the housing (2) is arranged to bias the at least one sanitising block (12) contained therein towards the dispensing section;

characterised in that the toilet sanitiser further comprises:

a plurality of sanitising blocks (12) located within the elongated enclosure (6) in the housing (2);

c) a plurality of liquid barrier members (231),

- wherein the plurality of liquid barrier members (231) is configured to be located between adjacent blocks (12) stored within the elongated enclosure (6) in the housing (2) to prevent the flow of liquid between blocks (12).
2. A toilet sanitiser according to claim 1 wherein the at least one wall (4) of the housing (2) defines a tubular enclosure (6) configured to slidably receive said at least one sanitising block (12).
3. A toilet sanitiser according to claim 1 or claim 2, wherein an upper part of the tubular enclosure (6) defines a storage section and a lower part of the tubular enclosure (6) defines the dispensing section such that when the housing (2) is oriented substantially vertically in use the at least one block (12) contained therein are biased downwardly towards the dispensing section.
4. A toilet sanitiser according to claim 1 or any claim depending therefrom, wherein the housing (2) includes a connection means (36) for attaching the housing (2) to a liquid containing vessel.
5. A toilet sanitiser according to claim 4, wherein the connection means comprises a hook portion.
6. A toilet sanitiser according to claim 5, wherein the hook portion is adjustable relative to the housing (2) to vary the spacing between the hook portion and the housing (2) to accommodate cisterns of varying wall thicknesses.
7. A toilet sanitiser according to claim 1 or any claim depending therefrom, wherein the lower end (16) of the housing (2) is open to permit the insertion of said at least one sanitising block (12) into the housing (2) and includes a closure member arranged to close said opening.
8. A toilet sanitiser according to claim 4 wherein the closure member comprises a cap (20) having a base (24) and a side wall (22) arranged to connect to and close the lower end (16) of the housing (2), wherein the cap (20) defines at least a portion of the dispensing section.
9. A toilet sanitiser according to claim 8, wherein at least one aperture (32) of the dispensing section is formed within the cap (20).
10. A toilet sanitiser according to claim 9, wherein the at least one aperture (32) comprises an elongate slot (26) formed in the side wall (22) of the cap (20).
11. A toilet sanitiser according to claim 10, wherein the elongate slot (26) extends through the base (24) of

the cap (20).

12. A toilet sanitiser according to any one of claims 9 to 11 wherein the at least one aperture (32) terminates at a position spaced from the upper edge of the cap (20).
13. A toilet sanitiser according to any one of claims 8 to 12 further comprising locking means for locking the cap (20) relative to the housing (2).
14. A toilet sanitiser according to claim 1 or any claim depending therefrom, wherein the at least one aperture (32) comprises a plurality of apertures (32) positioned at circumferentially spaced locations.
15. A toilet sanitiser according to claim 1 or any claim depending therefrom, wherein the housing (2) is arranged to receive the plurality of sanitising blocks (12) and hold them in a stacked arrangement.

Patentansprüche

1. Toilettendesinfektionsvorrichtung, umfassend:
- a) einen Toilettendesinfektionsmittelblockspender (1), umfassend:
- ein Gehäuse (2), das mindestens eine Wand (4) umfasst, die eine längliche Kammer (6) definiert, die so konfiguriert ist, dass sie mindestens einen Toilettendesinfektionsmittelblock aufnimmt; und
- einen an das Gehäuse angrenzenden Abgabeabschnitt (2);
- b) mindestens einen Desinfektionsmittelblock (12), der innerhalb der länglichen Kammer (6) im Gehäuse (2) angeordnet ist;
- wobei der Toilettendesinfektionsmittelblockspender (1) weiter umfasst: den Abgabeabschnitt, der so konfiguriert ist, dass er mindestens einen Teil des mindestens einen Desinfektionsmittelblocks (12) aufnimmt; und wobei der Abgabeabschnitt mindestens eine Öffnung (32) umfasst, die so konfiguriert ist, dass sie das Eindringen von Fluid in den Abgabeabschnitt ermöglicht, um die Auflösung der darin enthaltenen Desinfektionsmittelblöcke (12) zu bewirken, und wobei die längliche Kammer (6) in dem Gehäuse (2) so angeordnet ist, dass sie den mindestens einen darin enthaltenen Desinfektionsmittelblock (12) in Richtung des Abgabeabschnitts vorspannt;
- dadurch gekennzeichnet, dass** die Toilettendesinfektionsvorrichtung weiter umfasst: eine Vielzahl von Desinfektionsmittelblöcken

- (12), die innerhalb der länglichen Kammer (6) im Gehäuse (2) angeordnet sind;
 c) eine Vielzahl von Flüssigkeitssperrelementen (231), wobei die Vielzahl von Flüssigkeitssperrelementen (231) so konfiguriert sind, dass sie zwischen benachbarten Blöcken (12) angeordnet sind, die innerhalb der länglichen Kammer (6) im Gehäuse (2) gelagert sind, um einen Flüssigkeitsstrom zwischen den Blöcken (12) zu verhindern.
2. Toilettendesinfektionsvorrichtung nach Anspruch 1, wobei die mindestens eine Wand (4) des Gehäuses (2) eine rohrförmige Kammer (6) definiert, die so konfiguriert ist, dass sie den mindestens einen Desinfektionsmittelblock (12) gleitend aufnimmt.
 3. Toilettendesinfektionsvorrichtung nach Anspruch 1 oder Anspruch 2, wobei ein oberer Teil der rohrförmigen Kammer (6) einen Aufbewahrungsabschnitt definiert und ein unterer Teil der rohrförmigen Kammer (6) den Abgabeabschnitt definiert, so dass, wenn das Gehäuse (2) im Gebrauch im Wesentlichen vertikal ausgerichtet ist, der mindestens eine darin enthaltene Block (12) nach unten zum Abgabeabschnitt hin vorgespannt ist.
 4. Toilettendesinfektionsvorrichtung nach Anspruch 1 oder einem davon abhängigen Anspruch, wobei das Gehäuse (2) eine Verbindungsvorrichtung (36) zum Befestigen des Gehäuses (2) an einem Flüssigkeit enthaltenden Behälter aufweist.
 5. Toilettendesinfektionsvorrichtung nach Anspruch 4, wobei die Verbindungsvorrichtung einen Hakenabschnitt umfasst.
 6. Toilettendesinfektionsvorrichtung nach Anspruch 5, wobei der Hakenabschnitt relativ zum Gehäuse (2) einstellbar ist, um den Abstand zwischen dem Hakenabschnitt und dem Gehäuse (2) zu variieren, um Spülkästen mit unterschiedlichen Wandstärken zu berücksichtigen.
 7. Toilettendesinfektionsvorrichtung nach Anspruch 1 oder einem davon abhängigen Anspruch, wobei das untere Ende (16) des Gehäuses (2) offen ist, um das Einführen des mindestens einen Desinfektionsmittelblocks (12) in das Gehäuse (2) zu ermöglichen, und ein Verschlusselement aufweist, das so angeordnet ist, dass es die Öffnung verschließt.
 8. Toilettendesinfektionsvorrichtung nach Anspruch 4, wobei das Verschlusselement eine Kappe (20) mit einer Basis (24) und einer Seitenwand (22) umfasst, die so angeordnet ist, dass sie mit dem unteren Ende (16) des Gehäuses (2) verbunden ist und dieses verschließt, wobei die Kappe (20) mindestens einen Teil des Abgabeabschnitts definiert.
 9. Toilettendesinfektionsvorrichtung nach Anspruch 8, wobei mindestens eine Öffnung (32) des Abgabeabschnitts innerhalb der Kappe (20) ausgebildet ist.
 10. Toilettendesinfektionsvorrichtung nach Anspruch 9, wobei die mindestens eine Öffnung (32) einen in der Seitenwand (22) der Kappe (20) ausgebildeten länglichen Schlitz (26) umfasst.
 11. Toilettendesinfektionsvorrichtung nach Anspruch 10, wobei sich der längliche Schlitz (26) durch die Basis (24) der Kappe (20) erstreckt.
 12. Toilettendesinfektionsvorrichtung nach einem der Ansprüche 9 bis 11, wobei die mindestens eine Öffnung (32) an einer Stelle endet, die von der Oberkante der Kappe (20) beabstandet ist.
 13. Toilettendesinfektionsvorrichtung nach einem der Ansprüche 8 bis 12, das weiter eine Verriegelungsvorrichtung zum Verriegeln der Kappe (20) relativ zum Gehäuse (2) aufweist.
 14. Toilettendesinfektionsvorrichtung nach Anspruch 1 oder einem davon abhängigen Anspruch, wobei die mindestens eine Öffnung (32) eine Vielzahl von Öffnungen (32) umfasst, die an in Umfangsrichtung voneinander beabstandeten Stellen angeordnet sind.
 15. Toilettendesinfektionsvorrichtung nach Anspruch 1 oder einem davon abhängigen Anspruch, wobei das Gehäuse (2) so ausgebildet ist, dass es die Vielzahl von Desinfektionsblöcken (12) aufnimmt und sie in einer gestapelten Anordnung hält.
- ## Revendications
1. Assainisseur de toilettes comprenant :
 - a) un distributeur de blocs d'assainissement de toilettes (1) comprenant :
 - un boîtier (2) comprenant au moins une paroi (4) définissant une enceinte allongée (6) configurée pour recevoir au moins un bloc d'assainissement de toilettes ; et
 - une section de distribution contiguë au boîtier (2) ;
 - b) au moins un bloc d'assainissement (12) situé à l'intérieur de l'enceinte allongée (6) dans le boîtier (2) ;
 le distributeur de blocs d'assainissement de toilettes (1) comprend en outre : la section de dis-

- tribution étant configurée pour recevoir au moins une partie dudit au moins un bloc d'assainissement (12) ; et dans lequel la section de distribution comporte au moins un orifice (32) configuré pour permettre l'entrée de fluide dans la section de distribution pour provoquer la dissolution de blocs d'assainissement (12) contenus dans celle-ci, et dans lequel l'enceinte allongée (6) dans le boîtier (2) est agencée pour solliciter l'au moins un bloc d'assainissement (12) contenu dedans vers la section de distribution ;
- caractérisé en ce que** l'assainisseur de toilettes comprend en outre :
- une pluralité de blocs d'assainissement (12) situés à l'intérieur de l'enceinte allongée (6) dans le boîtier (2) ;
- c) une pluralité d'éléments de barrière aux liquides (231), où la pluralité d'éléments de barrière aux liquides (231) est configurée pour être située entre des blocs adjacents (12) stockés à l'intérieur de l'enceinte allongée (6) dans le boîtier (2) pour empêcher l'écoulement de liquide entre les blocs (12).
2. Assainisseur de toilettes selon la revendication 1, dans lequel l'au moins une paroi (4) du boîtier (2) définit une enceinte tubulaire (6) configurée pour recevoir de manière coulissante ledit au moins un bloc d'assainissement (12).
 3. Assainisseur de toilettes selon la revendication 1 ou 2, dans lequel une partie supérieure de l'enceinte tubulaire (6) définit une section de stockage et une partie inférieure de l'enceinte tubulaire (6) définit la section de distribution de sorte que lorsque le boîtier (2) est orienté sensiblement verticalement lors de l'utilisation, l'au moins un bloc (12) contenu dedans soit sollicité vers le bas vers la section de distribution.
 4. Assainisseur de toilettes selon la revendication 1 ou l'une quelconque des revendications qui dépend de celle-ci, dans lequel le boîtier (2) comporte un moyen de liaison (36) pour fixer le boîtier (2) à une cuve contenant du liquide.
 5. Assainisseur de toilettes selon la revendication 4, dans lequel le moyen de liaison comprend une partie de crochet.
 6. Assainisseur de toilettes selon la revendication 5, dans lequel la partie de crochet est réglable par rapport au boîtier (2) pour faire varier l'espacement entre la partie de crochet et le boîtier (2) pour accueillir des réservoirs d'épaisseurs de parois variables.
 7. Assainisseur de toilettes selon la revendication 1 ou l'une quelconque des revendications qui dépend de celle-ci, dans lequel l'extrémité inférieure (16) du boîtier (2) est ouverte pour permettre l'insertion dudit au moins un bloc d'assainissement (12) dans le boîtier (2) et comporte un élément de fermeture agencé pour fermer ladite ouverture.
 8. Assainisseur de toilettes selon la revendication 4, dans lequel l'élément de fermeture comprend un capuchon (20) ayant une base (24) et une paroi latérale (22) agencé pour être relié à l'extrémité inférieure (16) du boîtier (2) et fermer celle-ci, où le capuchon (20) définit au moins une partie de la section de distribution.
 9. Assainisseur de toilettes selon la revendication 8, dans lequel au moins un orifice (32) de la section de distribution est formé dans le capuchon (20).
 10. Assainisseur de toilettes selon la revendication 9, dans lequel l'au moins un orifice (32) comprend une fente allongée (26) formée dans la paroi latérale (22) du capuchon (20).
 11. Assainisseur de toilettes selon la revendication 10, dans lequel la fente allongée (26) s'étend à travers la base (24) du capuchon (20).
 12. Assainisseur de toilettes selon l'une quelconque des revendications 9 à 11, dans lequel l'au moins un orifice (32) se termine à une position espacée du bord supérieur du capuchon (20).
 13. Assainisseur de toilettes selon l'une quelconque des revendications 8 à 12, comprenant en outre un moyen de verrouillage pour verrouiller le capuchon (20) par rapport au boîtier (2).
 14. Assainisseur de toilettes selon la revendication 1 ou l'une quelconque des revendications qui dépend de celle-ci, dans lequel l'au moins un orifice (32) comprend une pluralité d'orifices (32) positionnés à des emplacements espacés de manière circonférentielle.
 15. Assainisseur de toilettes selon la revendication 1 ou l'une quelconque des revendications qui dépend de celle-ci, dans lequel le boîtier (2) est agencé pour recevoir la pluralité de blocs d'assainissement (12) et les maintenir dans un agencement empilé.

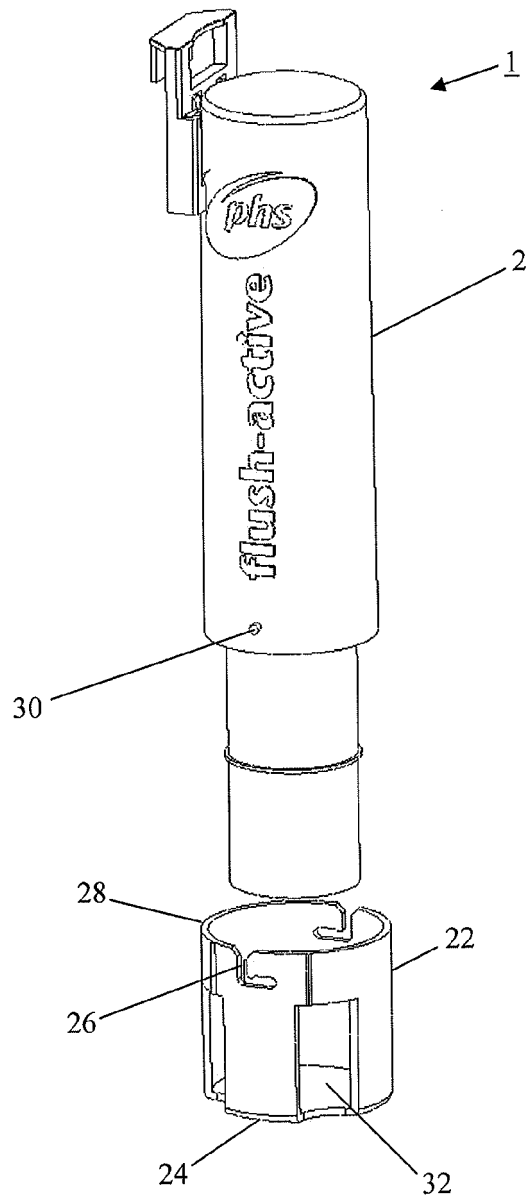


Figure 1

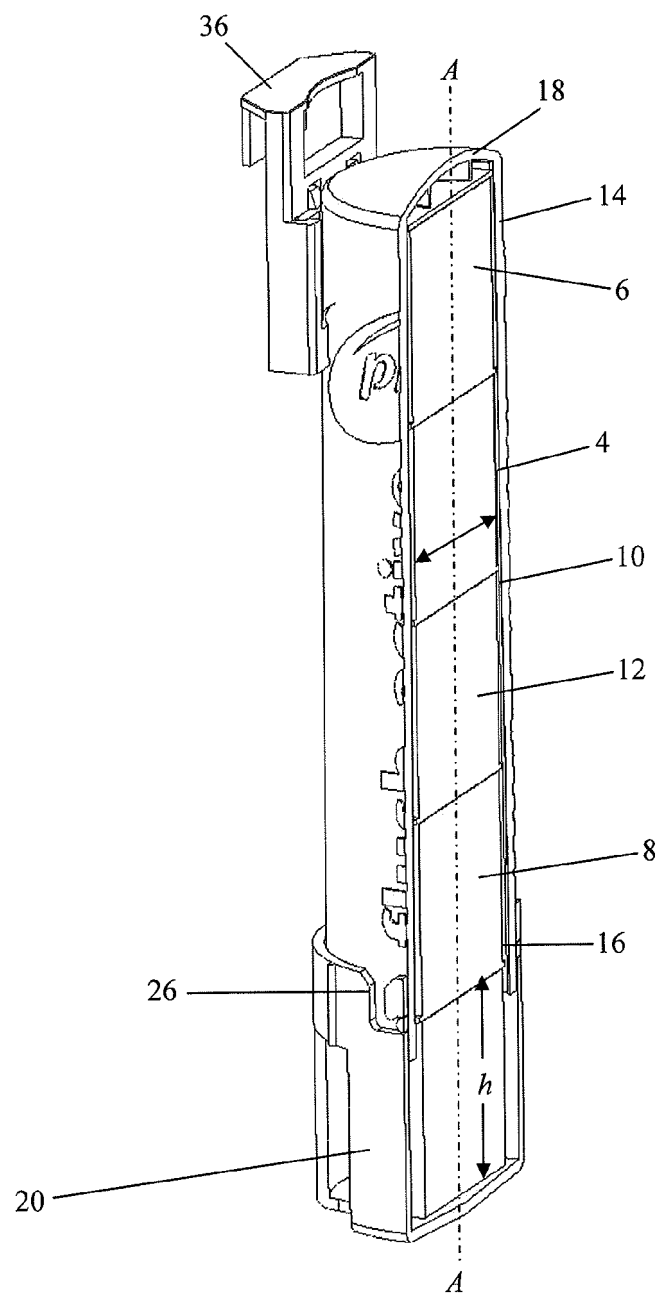


Figure 2

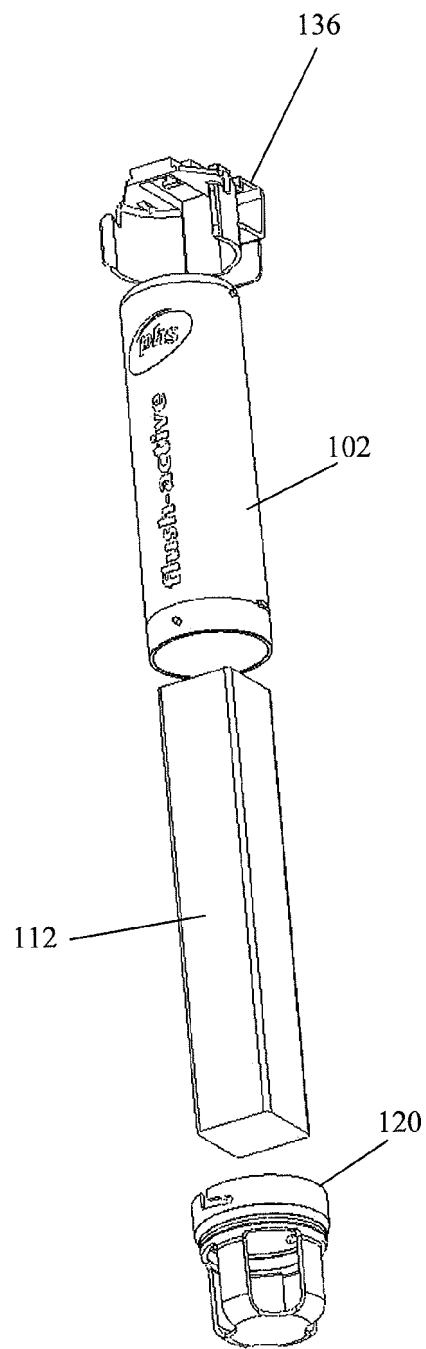


Figure 3

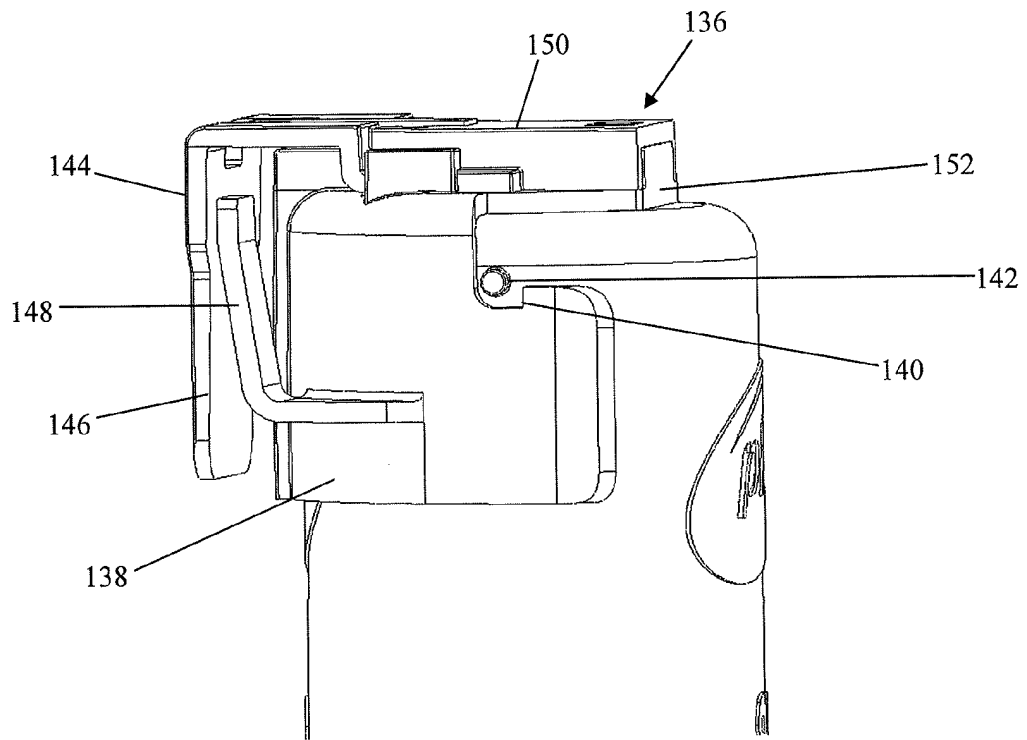


Figure 4

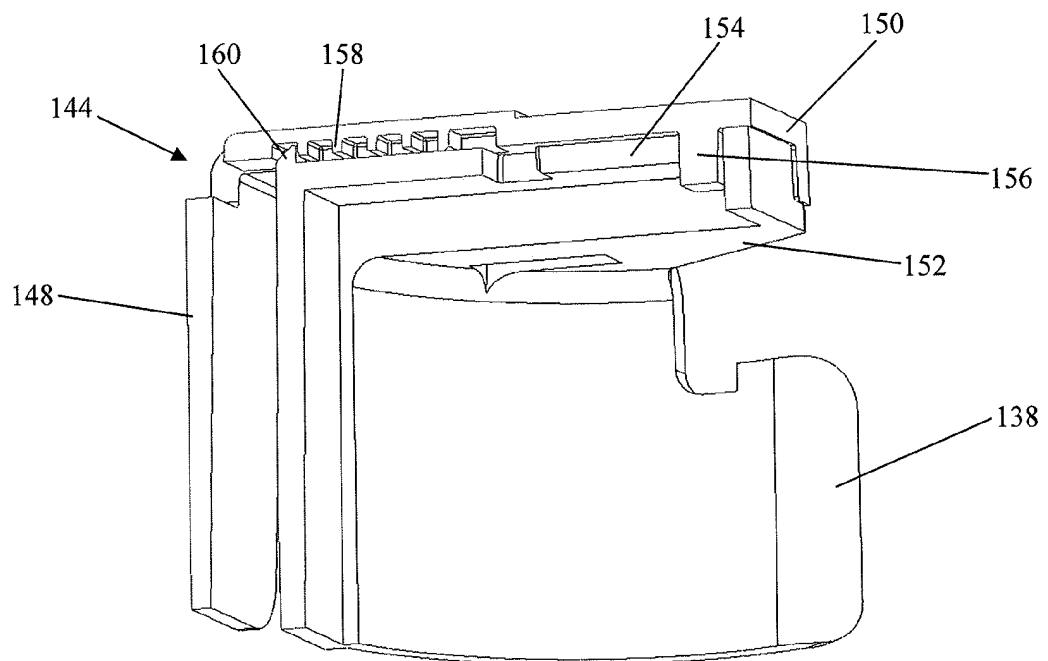


Figure 5

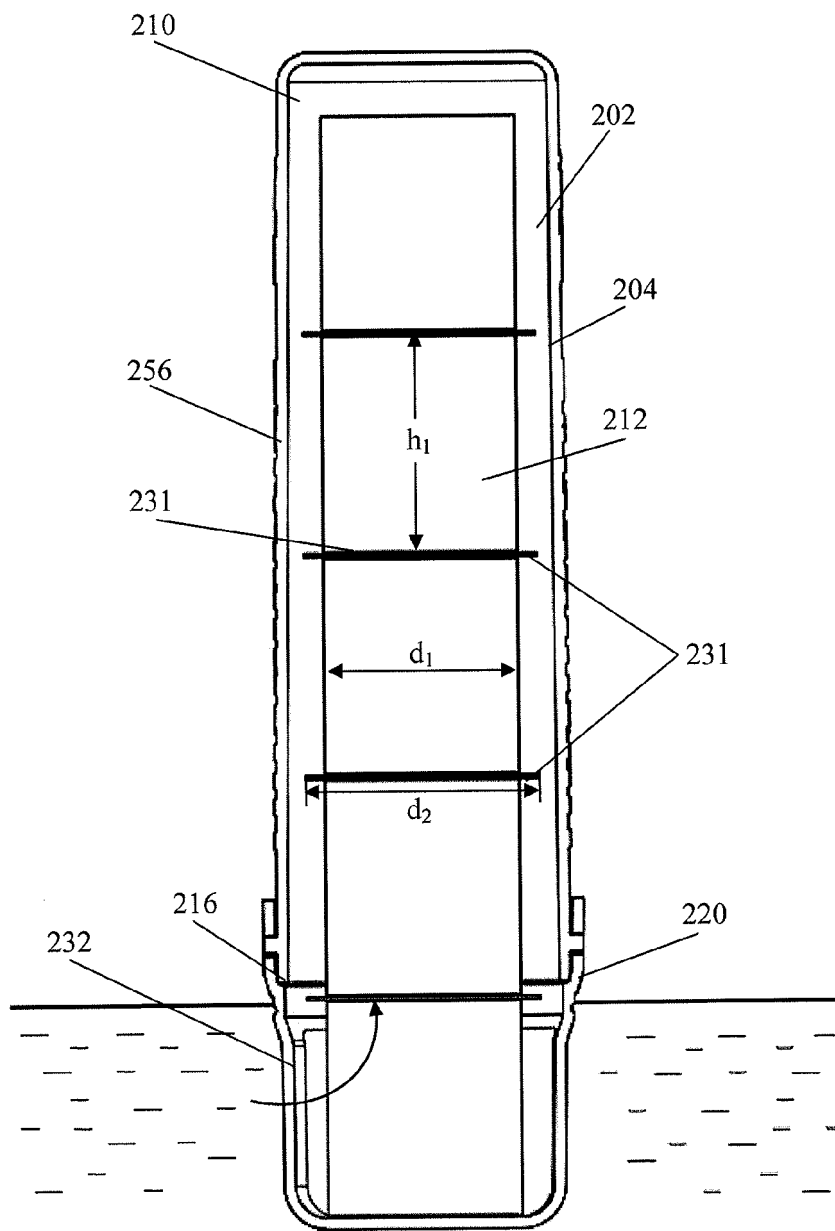


Figure 6

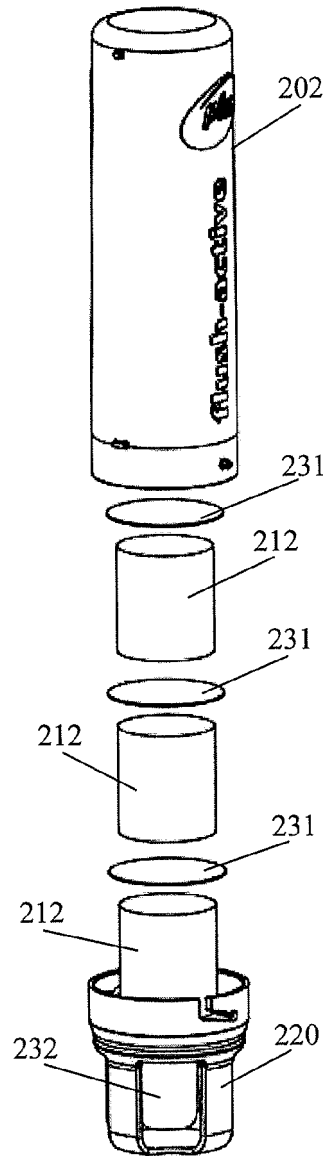


Figure 7

REFERENCES CITED IN THE DESCRIPTION

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