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⑤④ **Device for cleaning and/or colouring lavatory flush water.**

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Description

The invention relates to a device for cleaning and/or colouring lavatory flush water, consisting of a holder with at least one supply part and one discharge part, with means for holding a water-soluble block containing the materials for cleaning and/or colouring the flush water at a distance from the bottom of the holder, and with means for securing this within a zone above the static level of the liquid in the lavatory bowl, over which the liquid flows during the flushing operation, the discharge part of the holder being provided with a siphonic device integral with the holder, in order to empty the holder as completely as possible after a flushing operation.

A similar device is known from British Patent Specification 379,553. This siphonic device forms an inwardly directed bent pipe closed at the top on the inside of the holder and is thus responsible for a considerable decrease in the cross-section to be used for the holder. It is true that, according to the drawing of this prior patent publication, the holder is integral with the siphonic device, but great difficulties are involved in making the riser pipe and the fall pipe of the siphonic device with the hairpin transition bends if the holder has to be manufactured in a casting mould.

From the German utility model specification No. 7919664 a similar device for in-cistern application is known having a siphonic device fitted to the outside of the holder.

From the French patent publication having publication number 2 424 374 a device of the same kind is known, in which the siphonic device is mounted in the middle of the floor of the holder and is of relatively small height. This construction leads to a greater total height of the holder. Moreover, this siphonic device is constructed in such a way that it does not permit complete emptying of the holder, as the riser pipe has a considerably larger cross-section than the fall pipe of the siphonic device, although these are of approximately the same length. Furthermore, this siphonic device is not made completely in one piece, a separately manufactured part being attached afterwards.

The problem underlying the present application is to invent a device of the aforementioned kind which, in a simple manner and with little consumption of material, can be manufactured as a mass-produced and disposable article. The solution of this problem is effected, in terms of a device of the aforementioned kind, by the siphonic device being fitted to the outside of the holder with reference to application No. 3643/81 in Switzerland, published as CH—A—651,611, the applicant has voluntarily limited the scope of the present application and submitted separate claims for Switzerland. Through this construction of the siphonic device, with respect to the known constructions on the inside of the holder (British Patent Specification 379,553) or in the floor of the holder (French Patent Specification 2 424 375), the inner space of the holder in horizontal or

vertical direction is better utilized for arranging the block with active ingredients and can in that way be made smaller, with saving of material. In comparison with a construction of the siphonic device in the floor of the holder, the construction according to the invention also has the advantage that, for a certain height of the holder, it enables a greater volume, as a result of which a longer contact time between the water and the block containing the active ingredients is effected, and the siphonic device can be made long and narrow in vertical direction by mounting its upper end on an upper rim of the holder or a part of the holder, so that a good and reliable siphonic activity arises for the complete emptying of the holder after a flushing operation. Long and narrow siphon channels also cause a strong delay of the emptying of the holder, so that, advantageously, the major part of the water containing the active ingredients and/or colorants only flows out of the holder after the lavatory bowl flushing operation has already ended.

In order to limit the degree to which the siphonic device extends from the outside wall of the holder, the riser pipe and the fall pipe of the siphonic device are mounted, as an advantageous embodiment of the invention, next to each other parallel to the outside wall.

The means for securing the device to the rim of the lavatory bowl consist, for example, of a one-armed clip and are advantageously made integrally with the holder or a part of the holder in such a way that the siphonic device is automatically attached facing the inside of the lavatory bowl. This has the effect that the liquid running out of the siphon flows into the lavatory bowl closer to its centre and flows downwards along a shorter path along the side wall of the lavatory bowl.

The manufacture of the siphonic device integrally with the holder in a casting mould can be considerably simplified by securely closing the transition space at the upper end of the riser pipe and the fall pipe by pressing in a lid. In this arrangement such lid is preferably also formed integrally with the holder, and a joint forms a hinged connection between the lid and the holder, so that the lid, which as a result of its manufacture has been made to one side of the riser pipe and fall pipe, is rotatable from this place as starting position into the closed position.

According to an advantageous embodiment of the invention, a securing device, e.g. in the form of a one-armed clip, can be made on and integral with this rotatable lid formed on the holder, which, upon rotation of the lid into its closed position, takes up the position required for securing the holder to the rim of the lavatory bowl. In this arrangement, for reasons of effectiveness, special means can be provided which secure the lid with the securing device made on it in the position into which it has been rotated.

Another simplified method of manufacturing the device, coupled with saving of material, can be accomplished by the lower part of the holder

being tub-shaped and having placed herein a basket-shaped holder part containing the block with active ingredients. The tub-shaped holder part then only has to be placed against the bottom of the basket-shaped holder part and can be of correspondingly small dimensions, as its task mainly consists only in preventing coloured liquid or liquid provided with active ingredients from continuing to flow or from dripping after the end of the flushing operation, so that no unaesthetic staining traces, clearly visible because of the colouring, remain on the wall of the bowl. For this purpose only a comparatively small volume capacity is required of the tub-shaped holder part. The basket-shaped holder part, which on one hand serves as protection against contact with the block with active ingredients and on the other hand automatically creates a distance between the block with active ingredients and the inner wall of the tub-shaped holder part, may extend quite some way above the tub-shaped holder part.

The basket-shaped holder part is, in a general sense, a holder having numerous openings. The openings serve to enable the contact between the block with active ingredients and the flush water and the egress of the water containing the dissolved active ingredients. The delayed egress of the water from the tub-shaped holder part, caused by the siphonic device, leads to a duration of contact between water and the block with active ingredients sufficiently long for enough of the active ingredients to dissolve in the water. This embodiment of the holder in two parts has the advantage that the basket-shaped holder part can, as desired, also be used without the tub-shaped holder part being placed against it underneath, e.g. when a block with active ingredients is used that has no colorant with considerable colouring activity. In this case the problem of preventing the development of unaesthetic staining traces is absent. For this reason it is necessary that the means for securing the device inside the area of the lavatory bowl, e.g. in the form of a one-armed clip, is fitted to the basket-shaped holder part.

The tub-shaped holder part is effectively secured to the basket-shaped holder part by a snap linkage which, for example, has at least one resilient clip made on the inner wall of the tub-shaped holder part, which clips into an opening in the wall of the basket-shaped holder part and grips the wall from behind.

Preferably, on the inside of the tub-shaped holder part, at least one stop can be made on which a part of the wall of the basket-shaped holder part is supported. This stop thus causes an extra distance between the inner wall of the tub-shaped holder part and the block with active ingredients in addition to that which is already there just because of the thickness of the wall of the basket-shaped holder part.

The basket-shaped holder part preferably has a semi-circular cross-section and is longer than its diameter, and accordingly the tub-shaped holder

part has the shape of a segment of a circle or semi-circle. The siphonic device and its riser and fall channels are arranged on the outside tangentially with respect to the shape of this cross-section. The connection with the bottom end of the riser channel is there formed by a wall part running transversely outwards tangentially from the floor line or perpendicular line of the tub-shaped holder part, which wall is limited to one side by two connecting walls running from the bypass wall of the tub-shaped holder part to the siphonic device.

In another embodiment of the invention, the tub-shaped holder part in particular gets narrower from the middle in the direction of its both ends, so that the middle part forms a flat sump which is connected with the riser pipe of the siphonic device.

According to another embodiment of the invention, a separate basket-shaped holder part is avoided and instead of it a lid part is made integrally on a tub-shaped holder part with the siphonic device, which lid part is provided with flow-through openings. The connection between the tub-shaped holder part and the lid part can in this case take place via one or more short bars which, because of their resilience, form a hinged connection. In this arrangement the bar or bars are advantageously situated on the side of the tub-shaped holder part lying opposite the siphonic device, and the lid part is provided with securing means which serve to keep this in the closed position. Advantageously, these securing means can serve simultaneously to hold a securing device made on the lid of the siphonic device in its operating position.

Below, the invention will be further explained by reference to the example of an embodiment illustrated in the drawings.

Fig. 1 shows a plan view of the tub-shaped holder part with the basket-shaped holder part indicated by dot-and-dash lines.

Fig. 1A shows a preferred feature of an embodiment as drawn in Fig. 1.

Fig. 2 shows a radial view through the device with basket-shaped holder part placed therein, intersecting the riser pipe.

Fig. 3 shows a longitudinal section along the line III—III of Fig. 1 with the basket-shaped holder part placed therein indicated with dot-and-dash lines.

Fig. 3A shows a preferred feature of an embodiment as drawn in Fig. 3.

Fig. 4 shows a sectional view along the line IV of Fig. 5 of another embodiment of the device in a starting position after its manufacture in a casting mould.

Fig. 5 shows a plan view of the device in its position according to Fig. 4.

Fig. 6 shows the device according to Figures 4 and 5 in operational position.

As can be seen from the illustration of Fig. 2 in particular, the basket-shaped holder part 2 of the device 1, enclosing the block with active ingredients (not shown), has a circular cross-section,

while the cross-section of the tub-shaped holder part 3 underneath is semi-circular. In the illustration, the holder part 2 enclosed by the tub-shaped holder part 3 is only indicated by its line of circumference with dots and dashes, and it is clear that the circumference 4 of the basket-shaped holder part 2, because of a stop 5, is situated at a distance from the inner wall of the tub-shaped holder part 3, which stop is made at the floor line of this holder part.

The basket-shaped holder part 2 has on both of its ends a closed circular wall 7, 8 with a middle wall part 9, 10 positioned slightly inwards. In the middle, the holder part 2 has a two-part sealing ring 12 in the direction of its circumference along the line 11. Both sealing ring parts clamp into each other after the block with active ingredients (not shown) has been placed in this basket-shaped holder part 2. On one ring part of the sealing ring 12 a one-armed securing clip 14 is made for securing the device on the rim of a lavatory bowl. From both parts of the sealing ring 12, bars 15, arranged equally spaced from each other, run outwards to the end walls 7, 8 which are shown in Fig. 2.

In this arrangement the bars 15 have an outwardly bent course, as can best be seen in the drawing of Fig. 3, so that the basket-shaped holder part 2 has the form of two truncated cones joined to each other at their fat end. The tub-shaped holder part 3 is adapted to this form. For supporting the basket-shaped holder part 2 in the tub-shaped holder part 3, there are, beside stop 5, a further two stops 18, 19 made in the middle of the floor 17 to one side of the holder ends.

The snap linkage between the basket-shaped holder part 2 and the tub-shaped holder part 3 is effected by two resilient clips 20, 21, made on the floor 17, which enclose a bar indicated with a dashed line, as well as an abutment 23 made on the end wall 22, which abutment fittingly catches the inwardly placed wall part 9 of the basket-shaped holder part 2.

In a preferred embodiment, additional means for securing the two holder parts 2, 3 in their snap engagement are provided by way of wings 74 which are integrally attached to the upper rims of the end walls 22 of the tub-shaped holder part 3 by hinging joints 75, 76.

The snap engagement between the holder parts 2, 3 can now be secured by placing the wings 74 in between the end walls 22 of the tub-shaped holder part 3 and the middle wall parts 9, 10 of the basket-shaped holder part 2, the wings having slots 77 co-operating with abutments 23.

The tub-shaped holder part 3 has in the middle a narrow cylindrical zone 25 from which two half baskets 26, 27, in the form of a truncated cone, project outwards to both sides. This semi-cylindrical zone 25 in the middle is lightly recessed over a dip 28 opposite the half baskets 26, 27 and thus forms a sump for collecting liquid which keeps on dripping after the end of the flushing operation of the block with active ingredients.

To one side of the recessed zone 25 in the

middle, a side chamber 29 adjoins, which forms the transition to the siphonic device 30. This side chamber 29 has a flat bottom 31 tangentially adjoining the deepest place of the middle zone 25 of the tub-shaped holder part 3, and two side walls 33, 34 parallel to each other. The siphonic device 30 forms the radially outermost limitation of this side chamber 29 and consists of an integrally formed unit of two vertical channels, arranged in the longitudinal direction of the holder, one of which forms the riser pipe 36 and the other the fall pipe 37 of the siphonic device. The fall pipe 37 has a short length of tubing extending under the bottom 31 of the side chamber 29, which guarantees that the holder part 3 will be almost completely emptied. In this arrangement the water coming into contact with the block with active ingredients flows over the bottom 31 of the side chamber 29, comes through a slot-shaped opening 39 into the riser pipe 36 and rises therein because of the sucking action of the water flowing downwards in the fall pipe 37.

This sucking or siphoning action arises as a result of the transition space 40 at the upper end of both pipes 36, 37 being well closed, as the drawing of Fig. 3 shows. A lid 41, formed integrally with the tub-shaped holder part 3 and the siphonic device 30, ensures a good closure. The Figures 1 and 2 show the position of the lid 41 immediately after manufacture in a casting mould. For using the device, the lid is rotated 180°, via the bar 42 acting as hinged connection, over the transition space 40 and in that arrangement firmly pressed inwards. So that the siphonic device can be arranged as close as possible to the circumference of the tub-shaped holder part 3, there is a recess 44 made in the upper rim 50 of this holder part 3 for the rim 45 of the lid. In this manner the result is obtained that, through the construction of the siphonic device to one side of the holder, the device only increases in width in the same degree as the axis of one of the pipes 36, 37 plus the adjoining wall thickness of the siphonic device.

The closure lid 41 of the siphonic device has a hollow plug 46 which in cross-section is flat and which has bevelled sides, so that it can be pressed elastically, and forming a seal, into the opening at the upper end of both pipes 36, 37. The pipes 36, 37 of the siphonic device, running parallel to each other, can, as a consequence of the hollow space 47 in the plug 46, run up to the plug, as in this case this hollow space 47 can form the transition space of the riser pipe 36 to the fall pipe 37 of the siphonic device.

In the embodiment of the device according to Figures 4 to 6, a tub-shaped holder part 51 is made in the same manner as holder part 3 of the above-described example of an embodiment and also has a mainly semi-circular cross-section and, mounted on its longitudinal side, a siphonic device 53 with a lid 55 formed integrally therewith and rotatable. This holder part 51 serves for the immediate inclusion of a water-soluble block (not shown). In order to keep this at a distance from

the bottom 56 of this holder part 51, the latter has several, e.g. rib-shaped, spacers 58. On a side of the tub-shaped holder part 51 lying opposite the siphonic device 53 a lid part 62, allowing passage of water, is made, connected via a flexible connecting rib 60, so that the connecting rib 60 forms a hinge-like connection and the lid part 62 is rotatable, via the tub-shaped holder part 51, from the starting position shown in Fig. 4 to the closed position shown in Fig. 6. The shape of the cross-section of the lid part 62 is similarly semi-circular, so that, together with this holder part 51, it can enclose a block having a semi-circular cross-section placed in the holder part 51. In order to make the supply of the water possible during the flushing operation of the lavatory, the holder part 62 is built up of several bars which end in the, for example, closed narrow-sided side walls 65, 66 of the lid and are connected in the middle by a rib 67.

Naturally, the holder part 62, as also the other holder part 51, can be made differently for adaptation to blocks of another shape. Also the flow of water through the holder formed by both holder parts 51, 62 can be guaranteed by differently shaped openings in the wall of the lid part 62.

Further, on the side of the holder part 51 lying opposite the connecting rib between the holder part 51 and the lid part 62, or near the siphonic device 53, a clip-shaped securing member 68 is formed integrally on the device, so that, during the manufacture in a casting mould, the lid part 62, the holder part 51 and the securing member 68 are in a row next to each other, as Figures 4 and 5 show. In this arrangement the securing member 68 advantageously adjoins the outside of the closure lid 55 of the siphonic device 53, so that, upon rotation of the closure lid 55 into the closed position, the securing member occupies the operational position shown in Fig. 6. The clip shape of the securing member 68 is adapted to the shape of the rim of usual lavatory bowls. The hinged connection between the unit consisting of the closure lid 55, and the securing organ 68 and the siphonic device 53 is formed, as in the example of an embodiment according to the Figures 1 to 3, by a short, flexible rib 70. In order to protect the clip-shaped securing member 68 together with the closure lid 55 of the siphonic device in the position shown in Fig. 6, a stop claw 72 is made on the side of the lid part 62 lying opposite the connecting rib 60. When the lid part 62 is snapped onto the tub-shaped holder part 51, both legs of the stop claw 72 clamp firmly onto the vertically standing leg 73 of the securing member 68 by embracing it on both sides. For this purpose both legs of the stop claw are made resilient and hook-shaped, as can be seen in the drawing of Fig. 5.

The device according to the example of the embodiment of Figures 4 to 6 can therefore be manufactured integrally in a casting mould and, in a manner that is simple and time-saving, can be brought into the operational position after a block with active ingredients has been placed therein.

Claims for the Contracting States: AT, BE, DE, FR, GB, IT, NL, SE

1. A device for cleaning and/or colouring the flush water of a lavatory, consisting of a tub-shaped holder (3, 51) with means (2, 5, 15, 18, 19, 58, 62) for holding a water-soluble block containing the substances for the cleaning and/or colouring of the flush water, at a distance from the bottom (17, 56) of the holder, and with means (14, 68) for securing it inside a zone above the static level of the liquid in the lavatory bowl over which the liquid flows during the flushing operation, the discharge (29, 39) of the holder being provided with a siphonic device (30, 53) integral with the holder, characterised in that the siphonic device is positioned on the outside of the holder, the siphonic device is arranged such that after the flushing operation the holder is emptied as completely as possible, and a transition space (40) at the upper end of the siphonic device is securely closable by an inwardly pressable lid (41, 55) which is integral with the holder by way of a joint (42, 70) forming a hinged connection between the lid and the holder.

2. A device according to claim 1 wherein the means (2, 5, 15, 18, 19, 58, 62) for holding the block comprises a basket-shaped holder part (2), characterised in that the basket-shaped holder part is positioned in the tub-shaped holder part and is separate therefrom.

3. A device according to claim 1 or 2 characterised in that the holder securing means (14, 68) is made on lid (41, 55) such that on rotation of the lid into the closed position the holder securing means is rotated into its operational position, means (72) being provided for fixing the holder securing means in its operational position.

4. A device according to claim 1 or 2 characterised in that the holder securing means (14, 68) are made on the basket-shaped holder part (2).

5. A device according to claim 3, whereby the holder consists of a tub-shaped holder part (51) situated underneath and a lid part (62), rotatably connected therewith, provided with flow-through openings.

6. A device according to claim 5, whereby the lid part (62) is connected therewith via at least one flexible connecting rib (60) to a side of the tub-shaped holder part (51) lying opposite the siphonic device (53).

7. A device according to claim 6, whereby the lid part (62) has means (72) for fixing it in its closed position, these means (72) simultaneously being suitable for fixing a rotatable securing member (68) situated on the tub-shaped holder part (51).

8. A device according to claim 7, whereby the fixing means (72) consists of a stop claw intended for embracing a leg (73) of the securing member (68).

9. A device according to claim 2, having a snap linkage (15, 20, 21; 9, 23) between both holder parts (2, 3) with at least one resilient clip (29, 21) gripping into an opening in the wall of the basket-shaped holder part (2) and catching this wall.

10. A device according to claim 4, whereby the securing means (14) is made in the form of a one-armed clip on the basket-shaped holder part (2) and integrally herewith.

11. A device according to any one of the preceding claims, whereby the holder (2, 3, 51, 62) is rectangular and gets narrower from its middle zone outwards, the siphonic device (30) being mounted on this middle zone.

12. A device according to any one of the preceding claims whereby, on the inside of the tub-shaped holder part (3), at least one stop (5, 18, 19, 58) is provided on which a wall part (15) of the basket-shaped holder part (2) or of the block with active ingredients placed in the holder is supported.

13. A device according to any one of the preceding claims, whereby the tub-shaped holder part (3, 51) and the holder part or lid part (2, 62) placed therein or thereon have semi-circular or circular cross-sections.

14. A device according to any one of the preceding claims having a side chamber (29) adjoining the holder or a tub-shaped holder part (3, 51) to one side, which chamber forms the transition to the siphonic device (30), this chamber side having a bottom wall (31) outwardly projecting tangentially from the deepest place of the holder or a holder part (3, 51), and two side walls (33, 34) transverse to the axis of the holder.

15. A device according to any one of the preceding claims, whereby a lid (41) of the siphonic device has a hollow plug (46) of rectangular cross-section, the hollow space (47) of the plug forming at least a part of a transition space (40) from the riser pipe channel piece (36) to the fall pipe channel piece (37).

16. A device according to claim 15, whereby the lid (41) has a rim (45) projecting to one side of the plug (46) and in the rim (50) adjoining the siphonic device (30) a recess (44) is made for this lid rim (45).

17. A device of any one of the preceding claims, whereby the riser pipe and fall pipe (36, 37) of the siphonic device (30) are mounted next to each other parallel to the outside wall of the holder.

Claims for the Contracting State: CH

1. A device for cleaning and/or colouring the flush water of a lavatory, consisting of a tub-shaped holder (3, 51) with means (2, 5, 15, 18, 19, 58, 62) for holding a water-soluble block containing the substances for the cleaning and/or colouring of the flush water, at a distance from the bottom (17, 56) of the holder, and with means (14, 68) for securing it inside a zone above the static level of the liquid in the lavatory bowl over which the liquid flows during the flushing operation, the discharge (29, 39) of the holder being provided with a siphonic device (30, 53) integral with the holder, the siphonic device being positioned on the outside of the holder, the siphonic device is arranged such that after the flushing

operation the holder is emptied as completely as possible, and the transition space (40) at the upper end of the siphonic device is securely closable by an inwardly pressable lid (41, 55) which is integral with the holder by way of a joint (42, 70) forming a hinged connection between the lid and the holder, characterised in that the holder securing means (14, 68) is made on the inwardly pressable lid (41, 55) such that on rotation of the lid into the closed position the holder securing means is rotated into its operational position, means (72) being provided for fixing the holder securing means in its operational position.

2. A device according to claim 1 wherein the means (2, 5, 15, 18, 19, 58, 62) for holding the block comprises a basket-shaped holder part (2), characterised in that the basket-shaped holder part is positioned in the tub-shaped holder part and is separate therefrom.

3. A device according to claim 1, whereby the holder consists of a tub-shaped holder part (51) situated underneath and a lid part (62), rotatably connected therewith, provided with flow-through openings.

4. A device according to claim 3, whereby the lid part (62) is connected therewith via at least one flexible connecting rib (60) to a side of the tub-shaped holder part (51) lying opposite the siphonic device (53).

5. A device according to claim 4, whereby the lid part (62) has means (72) for fixing it in its closed position these means (72) simultaneously being suitable for fixing a rotatable securing member (68) situated on the tub-shaped holder part (51).

6. A device according to claim 5, whereby the fixing means (72) consists of a stop claw intended for embracing a leg (73) of the securing member (68).

7. A device according to claim 2, having a snap linkage (15, 20, 21; 9, 23) between both holder parts (2, 3) with at least one resilient clip (29, 21) gripping into an opening in the wall of the basket-shaped holder part (2) and catching this wall.

8. A device according to claim 2, whereby the securing means (14) is made in the form of a one-armed clip on the basket-shaped holder part (2) and integrally herewith.

9. A device according to any one of the preceding claims whereby the holder (2, 3, 51, 62) is rectangular and gets narrower from its middle zone outwards, the siphonic device (30) being mounted on this middle zone.

10. A device according to any one of the preceding claims, whereby, on the inside of the tub-shaped holder part (3), at least one stop (5, 18, 19, 58) is provided on which a wall part (15) of the basket-shaped holder part (2) or of the block with active ingredients placed in the holder is supported.

11. A device according to any one of the preceding claims whereby the tub-shaped holder part (3, 51) and the holder part or lid part (2, 62) placed therein or thereon have semi-circular or circular cross-sections.

12. A device according to any one of the preceding claims having a side chamber (29) adjoining the holder or a tub-shaped holder part (3, 51) to one side, which chamber forms the transition to the siphonic device (30), this side chamber having a bottom wall (31) outwardly projecting tangentially from the deepest place of the holder or a holder part (3, 51), and two side walls (33, 34) transverse to the axis of the holder.

13. A device according to any one of the preceding claims, whereby a lid (41) of the siphonic device has a hollow plug (46) of rectangular cross-section, the hollow space (47) of the plug forming at least a part of a transition space (40) from the riser pipe channel piece (36) to the fall pipe channel piece (37).

14. A device according to claim 13, whereby the lid (41) has a rim (45) projecting to one side of the plug (46) and in the rim (50) adjoining the siphonic device (30) a recess (44) is made for this lid rim (45).

15. A device of any one of the preceding claims, whereby the riser pipe and fall pipe (36, 37) of the siphonic device (30) are mounted next to each other parallel to the outside wall of the holder.

Patentansprüche für die Vertragsstaaten: AT, BE, DE, FR, GB, IT, NL, SE

1. Vorrichtung zum Reinigen und/oder Färben des Spülwassers einer Toilette, bestehend aus einem wannenförmigen Halter (3, 51) mit Einrichtungen (2, 5, 15, 18, 19, 58, 62) zum Halten eines wasserlöslichen Blocks, der die Substanzen zum Reinigen und/oder Färben des Spülwassers enthält, in einem Abstand vom Boden (17, 56) des Halters und mit Einrichtungen (14, 68) zum Festhalten dieses Blocks innerhalb eines Bereichs über dem statischen Pegel der Flüssigkeit in der Toilettenschüssel, über den die Flüssigkeit während des Spülvorgangs fließt, wobei die Entladung (29, 39) des Halters mit einer integral mit dem Halter ausgebildeten Siphonvorrichtung (30, 53) ausgestattet ist, dadurch gekennzeichnet, daß die Siphonvorrichtung an der Außenseite des Halters angeordnet ist, daß sie so angeordnet ist, daß nach dem Spülvorgang der Halter so vollständig als möglich geleert wird, und daß ein Übergangsraum (40) am oberen Ende der Siphonvorrichtung durch einen hineindrückbaren Deckel (41, 55), der über Gelenk (42, 70), das eine Scharnierverbindung zwischen dem Deckel und dem Halter bildet, integral mit dem Halter ausgebildet ist, sicher schließbar ist.

2. Vorrichtung nach Anspruch 1, bei der die Einrichtung (2, 5, 15, 18, 19, 58, 62) zum Halten des Blocks einen korbformigen Halterteil (2) umfaßt, dadurch gekennzeichnet, daß der korbformige Halterteil im wannenförmigen Halterteil angeordnet und von diesem getrennt ist.

3. Vorrichtung nach Anspruch 1 oder 2, dadurch gekennzeichnet, daß die Halterbefestigungseinrichtung (14, 68) so auf einem Deckel (41, 55) angeordnet ist, daß bei der Verschwenkung des Deckels in die geschlossene Stellung die Halter-

befestigungseinrichtung in ihre Betriebsstellung verdreht wird, wobei Mittel (72) zum Fixieren der Halterbefestigungseinrichtung in ihrer Betriebsstellung vorhanden sind.

4. Vorrichtung nach Anspruch 1 oder 2, dadurch gekennzeichnet, daß die Halterbefestigungseinrichtung (14, 68) auf dem korbformigen Halterteil (2) angeordnet ist.

5. Vorrichtung nach Anspruch 3, bei der Halter aus einem wannenförmigen Halterteil (51) besteht, der unterhalb eines Deckelteils (62) liegt, der mit jenem verdrehbar verbunden ist und Durchflußöffnungen aufweist.

6. Vorrichtung nach Anspruch 5, bei der der Deckelteil (62) hiermit über wenigstens eine flexible Verbindungsrippe (60) an einer Seite des wannenförmigen Halterteils (51), die der Siphonvorrichtung (53) gegenüberliegt, verbunden ist.

7. Vorrichtung nach Anspruch 6, bei der der Deckelteil (62) Einrichtungen (72) zu seiner Fixierung in seiner geschlossenen Stellung aufweist, wobei diese Einrichtungen (72) sich gleichzeitig zum Fixieren eines verdrehbaren Befestigungsglieds (68) eignen, das am wannenförmigen Halterteil (51) sitzt.

8. Vorrichtung nach Anspruch 7, bei der die Fixierungseinrichtungen (72) aus einer Stoppklausen bestehen, die einen Schenkel (73) des Befestigungsglieds (68) umgreifen soll.

9. Vorrichtung nach Anspruch 2, mit einem Schnappmechanismus (15, 20, 21; 9, 23) zwischen den beiden Halterteilen (2, 3), mit wenigstens einem federnden Clip (29, 21), das in eine Öffnung in der Wand des korbformigen Halterteils (2) eingreift und diese Wand ergreift.

10. Vorrichtung nach Anspruch 4, bei der die Befestigungseinrichtung (14) in Form eines einarmigen Clips am korbformigen Halterteil (2) und integral mit diesem ausgebildet ist.

11. Vorrichtung nach einem der vorhergehenden Ansprüche, bei der der Halter (2, 3, 51, 62) rechtwinklig ist und von seiner Mittelzone nach außen enger wird, wobei die Siphonvorrichtung (30) an dieser Mittelzone montiert ist.

12. Vorrichtung nach einem der vorhergehenden Ansprüche, bei der an der Innenseite des wannenförmigen Halterteils (3) wenigstens ein Anschlag (5, 18, 19, 58) vorhanden ist, auf dem sich ein Wandteil (15) des korbformigen Halterteils (2) oder des Blocks mit aktiven Ingredientien, der im Halter angeordnet ist, abstützt.

13. Vorrichtung nach einem der vorhergehenden Ansprüche, bei der der wannenförmige Halterteil (3, 51) und der Halterteil oder Deckelteil (2, 62), der darin oder daran angeordnet ist, halbkreisförmige oder kreisförmige Querschnitte aufweisen.

14. Vorrichtung nach einem der vorhergehenden Ansprüche, mit einer an den Halter oder einen wannenförmigen Halterteil (2, 51) auf einer Seite anschließenden Seitenkammer (29), die den Übergang zur Siphonvorrichtung (30) bildet, wobei diese Seitenkammer eine untere Wand (31), die tangential von der tiefsten Stelle des Halters oder eines Halterteils (3, 51) absteht, und

zwei Seitenwände (33, 34), die quer zur Achse des Halter verlaufen, aufweist.

15. Vorrichtung nach einem der vorhergehenden Ansprüche, bei der ein Deckel (41) der Siphonvorrichtung einen hohlen Zapfen (46) von rechteckigem Querschnitt aufweist, wobei der Hohlraum (47) des Zapfens wenigstens einen Teil eines Übergangsraums (40) vom Steigrohr-Kanalstück (36) zum Fallrohr-Kanalstück (37) bildet.

16. Vorrichtung nach Anspruch 15, bei der Deckel (41) einen Rand (45) hat, der an einer Seite des Zapfens (46) vorsteht, und in dem an die Siphonvorrichtung (30) anschließenden Rand (50) eine Ausnehmung (44) für den Deckelrand (45) gebildet ist.

17. Vorrichtung nach einem der vorherigen Ansprüche, bei der das Steigrohr und das Fallrohr (36, 37) der Siphonvorrichtung (30) nebeneinander und parallel zueinander an der Außenwand des Halters montiert sind.

Patentansprüche für den Vertragsstaat: CH

1. Vorrichtung zum Reinigen und/oder Färben der Spülwassers einer Toilette, bestehend aus einem wannenförmigen Halter (3, 51) mit Einrichtungen (2, 5, 15, 18, 19, 58, 62) zum Halten eines wasserlöslichen Blocks, der die Substanzen zum Reinigen und/oder Färben des Spülwassers enthält, in einem Abstand vom Boden (17, 56) des Halters und mit Einrichtungen (14, 68) zum Festhalten dieses Blocks innerhalb eines Bereichs über dem statischen Pegel der Flüssigkeit in der Toilettenschüssel, über den die Flüssigkeit während des Spülvorgangs fließt, wobei die Entladung (29, 39) des Halters mit einer integral mit dem Halter ausgebildeten Siphonvorrichtung (30, 53) ausgestattet ist, wobei die Siphonvorrichtung an der Außenseite des Halters angeordnet ist, daß sie so angeordnet ist, daß nach dem Spülvorgang der Halter so vollständig als möglich geleert wird, und daß ein Übergangsraum (40) am oberen Ende der Siphonvorrichtung durch einen hineindrückbaren Deckel (41, 55), der über ein Gelenk (42, 70), das eine Scharnierverbindung zwischen dem Deckel und dem Halter bildet, integral mit dem Halter ausgebildet ist, sicher schließbar ist, dadurch gekennzeichnet, daß die Halterbefestigungseinrichtung (14, 68) so auf einem einwärts drückbaren Deckel (41, 55) angeordnet ist, daß bei der Verschwenkung des Deckels in die geschlossene Stellung die Halterbefestigungseinrichtung in ihre Betriebsstellung verdreht wird, wobei Mittel (72) zum Fixieren der Halterbefestigungseinrichtung in ihrer Betriebsstellung vorhanden sind.

2. Vorrichtung nach Anspruch 1, bei der die Einrichtung (2, 5, 15, 18, 19, 58, 62) zum Halten des Blocks einen korbformigen Halterteil (2) umfaßt, dadurch gekennzeichnet, daß der korbformige Halterteil im wannenförmigen Halterteil angeordnet und von diesem getrennt ist.

3. Vorrichtung nach Anspruch 1, bei der der Halter aus einem wannenförmigen Halterteil (51)

besteht, der unterhalb eines Deckelteils (62) liegt, der mit jenem verdrehbar verbunden ist und Durchflußöffnungen aufweist.

4. Vorrichtung nach Anspruch 3, bei der der Deckelteil (62) hiermit über wenigstens eine flexible Verbindungsrippe (60) an einer Seite des wannenförmigen Halterteils (51), die der Siphonvorrichtung (53) gegenüberliegt, verbunden ist.

5. Vorrichtung nach Anspruch 4, bei der der Deckelteil (62) Einrichtungen (72) zu seiner Fixierung in seiner geschlossenen Stellung aufweist, wobei diese Einrichtungen (72) sich gleichzeitig zum Fixieren eines verdrehbaren Befestigungsglieds (68) eignen, das am wannenförmigen Halterteil (51) sitzt.

6. Vorrichtung nach Anspruch 5, bei der die Fixierungseinrichtungen (72) aus einer Stopplappe bestehen, die einen Schenkel (73) des Befestigungsglieds (68) umgreifen soll.

7. Vorrichtung nach Anspruch 2, mit einem Schnappmechanismus (15, 20, 21; 9, 23) zwischen den beiden Halterteilen (2, 3), mit wenigstens einem federnden Clip (29, 21), das in eine Öffnung in der Wand des korbformigen Halterteils (2) eingreift und diese Wand ergreift.

8. Vorrichtung nach Anspruch 2, bei der die Befestigungseinrichtung (14) in Form eines einarmigen Clips am korbformigen Halterteil (2) und integral mit diesem ausgebildet ist.

9. Vorrichtung nach einem der vorhergehenden Ansprüche, bei der der Halter (2, 3, 51, 62) rechtwinklig ist und von seiner Mittelzone nach außen enger wird, wobei die Siphonvorrichtung (30) an dieser Mittelzone montiert ist.

10. Vorrichtung nach einem der vorhergehenden Ansprüche, bei der an der Innenseite des wannenförmigen Halterteils (3) wenigstens ein Anschlag (5, 18, 19, 58) vorhanden ist, auf dem sich ein Wandteil (15) des korbformigen Halterteils (2) oder des Blocks mit aktiven Ingredientien, der im Halter angeordnet ist, abstützt.

11. Vorrichtung nach einem der vorhergehenden Ansprüche, bei der der wannenförmige Halterteil (3, 51) und der Halterteil oder Deckelteil (2, 62), der darin oder daran angeordnet ist, halbkreisförmige oder kreisförmige Querschnitte aufweisen.

12. Vorrichtung nach einem der vorhergehenden Ansprüche, mit einer an den Halter oder einen wannenförmigen Halterteil (2, 51) auf einer Seite anschließenden Seitenkammer (29), die den Übergang zur Siphonvorrichtung (30) bildet, wobei diese Seitenkammer eine untere Wand (31), die tangential von der tiefsten Stelle des Halters oder eines Halterteils (3, 51) absteht, und zwei Seitenwände (33, 34), die quer zur Achse des Halter verlaufen, aufweist.

13. Vorrichtung nach einem der vorhergehenden Ansprüche, bei der ein Deckel (41) der Siphonvorrichtung einen hohlen Zapfen (46) von rechteckigem Querschnitt aufweist, wobei der Hohlraum (47) des Zapfens wenigstens einen Teil eines Übergangsraums (40) vom Steigrohr-Kanalstück (36) zum Fallrohr-Kanalstück (37) bildet.

14. Vorrichtung nach Anspruch 13, bei der der Deckel (41) einen Rand (45) hat, der an einer Seite des Zapfens (46) vorsteht, und in dem an die Siphonvorrichtung (30) anschließenden Rand (50) eine Ausnehmung (44) für den Deckelrand (45) gebildet ist.

15. Vorrichtung nach einem der vorherigen Ansprüche, bei der das Steigrohr und das Fallrohr (36, 37) der Siphonvorrichtung (30) nebeneinander und parallel zueinander an der Außenwand des Halters montiert sind.

Revendications pour les Etats Contractants: AT, BE, DE, FR, GB, IT, NL, SE

1. Dispositif pour nettoyer et/ou colorer l'eau de la chasse des toilettes, comprenant un réservoir en forme de bac (3, 51) avec des moyens (2, 5, 15, 18, 19, 58, 62) pour contenir un bloc hydrosoluble renfermant des substances pour le nettoyage et/ou la coloration de l'eau de la chasse d'eau, à une certaine distance du fond (17, 56) du réservoir et des moyens pour le fixer à l'intérieur d'une zone au dessus du niveau statique du liquide dans la cuvette des toilettes sur laquelle s'écoule le liquide pendant le fonctionnement de la chasse d'eau, la décharge (29, 39) du réservoir étant munie d'un dispositif à siphon (30, 53) d'un seul tenant avec le réservoir, caractérisé en ce que le dispositif à siphon est installé sur l'extérieur du réservoir, le dispositif à siphon est agencé de manière qu'après l'actionnement de la chasse, le réservoir soit vidé aussi complètement que possible, et un espace de transition (40) à l'extrémité supérieure du dispositif à siphon est susceptible de fermeture sûre au moyen d'un couvercle qu'on presse vers l'intérieur (41, 55) qui est d'un seul tenant avec le réservoir par l'entremise d'un joint (42, 70) établissant une liaison à charnière entre le couvercle et le réservoir.

2. Dispositif selon la revendication 1, dans lequel les moyens (2, 5, 15, 18, 19, 58, 62) pour retenir le bloc comprennent une partie de réservoir en forme de panier (2), caractérisé en ce que la partie du réservoir en forme de panier est montée dans la partie du réservoir en forme de bac et est séparée de celle-ci.

3. Dispositif selon la revendication 1 ou 2, caractérisé en ce que des moyens (14, 68) de fixation du réservoir sont prévus sur le couvercle (41, 55) de façon que lors de la rotation du couvercle vers sa position fermée, les moyens de fixation du réservoir soient entraînés en rotation vers une position de fonctionnement, des moyens (72) étant prévus pour fixer les moyens d'assujettissement du réservoir dans sa position du fonctionnement.

4. Dispositif selon la revendication 1 ou 2, caractérisé en ce que les moyens de fixation du réservoir (14, 68) sont montés sur la partie en forme de panier (2) du réservoir.

5. Dispositif selon la revendication 3, dans lequel le réservoir consiste en une partie en forme de bac (51) située sur le dessous et une partie formant couvercle (62) accouplée en rotation à

cette dernière et présentant des orifices pour l'écoulement.

6. Dispositif selon la revendication 5, dans lequel la partie de couvercle (62) est reliée avec lui par l'entremise d'au moins une nervure flexible de liaison (60) sur un côté de la partie du réservoir en forme de bac (51) à l'opposé du dispositif à siphon (53).

7. Dispositif selon la revendication 6, dans lequel la partie formant couvercle (62) comporte des moyens (72) pour la fixer en position fermée, ces moyens (72) convenant en même temps pour fixer un organe fixateur en rotation (68) installé sur la partie du réservoir en forme de bac (51).

8. Dispositif selon la revendication 7 dans lequel les moyens de fixation (72) sont constitués par une griffe d'arrêt destinée à entourer une branche (73) de l'organe fixateur (68).

9. Dispositif selon la revendication 2, comportant une liaison à déclic (15, 20, 21; 9, 23) entre les deux parties du réservoir (2, 3), au moins une pince flexible (29, 21) venant s'accrocher dans une ouverture de la paroi de la partie du réservoir en forme de panier (2) et agrippant cette paroi.

10. Dispositif selon la revendication 4, dans lequel les moyens d'assujettissement (14) sont sous forme d'une pince à une branche sur la partie du réservoir en forme de panier (2) et d'une seul tenant avec elle.

11. Dispositif selon l'une quelconque des revendications précédentes, dans lequel le réservoir (2, 3, 51, 62) est rectangulaire et se rétrécit depuis son milieu vers l'extérieur, le dispositif à siphon (30) étant monté sur sa zone médiane.

12. Dispositif selon l'une quelconque des revendications précédentes, dans lequel sur l'intérieur de la partie en forme de bac (3) du réservoir, ou a prévu au moins une butée (5, 18, 19, 58) sur laquelle est supportée une partie de paroi (15) de la partie du réservoir en forme de panier (2) ou du bloc contenant les ingrédients actifs placé dans le réservoir.

13. Dispositif selon l'une quelconque des revendications précédentes, dans lequel la partie du réservoir en forme de bac (3, 51) et le réservoir ou couvercle (2, 62) dans celle-ci ou sur elle présentent des sections transversales semi-circulaires ou circulaires.

14. Dispositif selon l'une quelconque des revendications précédentes, comportant une chambre latérale (29) qui rejoint le réservoir ou la partie en forme de bac (3, 51) du réservoir sur une côté, cette chambre latérale formant la transition vers le dispositif à siphon (30), ce côté ayant une paroi de fond (31) faisant tangentiellement saillie vers l'extérieur à partir de l'endroit le plus profond du réservoir ou de la partie du réservoir (3, 51) et deux parois latérales (33, 34) transversales par rapport à l'axe du réservoir.

15. Dispositif selon l'une quelconque des revendications précédentes, dans lequel un couvercle (41) du dispositif à siphon présente un tampon creux (46) de section transversale rectangulaire, l'espace creux (47) dans le tampon formant au moins une partie d'un espace de transition (40)

depuis la gouttière (36) du tuyau ascendant vers la gouttière (37) du tuyau descendant.

16. Dispositif selon la revendication 15, dans lequel le couvercle (41) présente une bordure (45) faisant saillie vers un côté du tampon (46) et dans la bordure (50) à côté du dispositif à siphon (50) est pratiqué un évidement (44) pour cette bordure de couvercle (45).

17. Dispositif selon l'une quelconque des revendications précédentes, dans lequel le tuyau ascendant et le tuyau descendant (36, 37) du dispositif à siphon (30) sont montés l'un à côté de l'autre parallèlement à la paroi extérieure du réservoir.

Revendications pour l'Etat Contractant: CH

1. Dispositif pour nettoyer et/ou colorer l'eau de la chasse des toilettes, comprenant un réservoir en forme de bac (3, 51) avec des moyens (2, 5, 15, 18, 19, 58, 62) pour contenir un bloc hydrosoluble renfermant des substances pour le nettoyage et/ou la coloration de l'eau de la chasse d'eau, à une certaine distance du fond (17, 56) du réservoir et des moyens pour le fixer à l'intérieur d'une zone au dessus du niveau statique du liquide dans la cuvette des toilettes sur laquelle s'écoule le liquide pendant le fonctionnement de la chasse d'eau, la décharge (29, 39) du réservoir étant munie d'un dispositif à siphon (30, 53) d'un seul tenant avec le réservoir, le dispositif à siphon étant installé sur l'extérieur du réservoir, le dispositif à siphon est agencé de manière qu'après l'actionnement de la chasse, le réservoir soit vidé aussi complètement que possible, et un espace de transition (40) à l'extrémité supérieure du dispositif à siphon est susceptible de fermeture sûre au moyen d'un couvercle qu'on presse vers l'intérieur (41, 55) qui est d'un seul tenant avec le réservoir par l'entremise d'un joint (42, 70) établissant une liaison à charnière entre le couvercle et le réservoir, caractérisé en ce que les moyens (14, 68) de fixation du réservoir sont prévus sur le couvercle pressable vers l'intérieur (41, 55) de façon que lors de la rotation du couvercle vers sa position fermée, les moyens de fixation du réservoir soient entraînés en rotation vers une position de fonctionnement, des moyens (72) étant prévus pour fixer les moyens d'assujettissement du réservoir dans sa position du fonctionnement.

2. Dispositif selon la revendication 1, dans lequel les moyens (2, 5, 15, 18, 19, 58, 62) pour retenir le bloc comprennent une partie de réservoir en forme de panier (2) caractérisé en ce que la partie du réservoir en forme de panier est montée dans la partie du réservoir en forme de bac et est séparée de celle-ci.

3. Dispositif selon la revendication 1, dans lequel le réservoir consiste en une partie en forme de bac (51) située sur le dessous et une partie formant couvercle (62) accouplée en rotation à cette dernière et présentant des orifices pour l'écoulement.

4. Dispositifs selon la revendication 3, dans lequel la partie de couvercle (62) est reliée avec lui

par l'entremise d'au moins une nervure flexible de liaison (60) sur un côté de la partie du réservoir en forme de bac (51) à l'opposé du dispositif à siphon (53).

5. Dispositif selon la revendication 4, dans lequel la partie formant couvercle (62) comporte des moyens (72) pour la fixer en position fermée, ces moyens (72) convenant en même temps pour fixer un organe fixateur en rotation (68) installé sur la partie du réservoir en forme de bac (51).

6. Dispositif selon la revendication 5, dans lequel les moyens de fixation (72) sont constitués par une griffe d'arrêt destinée à entourer une branche (73) de l'organe fixateur (68).

7. Dispositif selon la revendication 2, comportant une liaison à déclic (15, 20, 21; 9, 23) entre les deux parties du réservoir (2, 3), au moins une pince flexible (29, 21) venant s'accrocher dans une ouverture de la paroi de la partie du réservoir en forme de panier (2) et agrippant cette paroi.

8. Dispositif selon la revendication 2, dans lequel les moyens d'assujettissement (14) sont sous forme d'une pince à une branche sur la partie du réservoir en forme de panier (2) et d'un seul tenant avec elle.

9. Dispositifs selon l'une quelconque des revendications précédentes, dans lequel le réservoir (2, 3, 51, 62) est rectangulaire et se rétrécit depuis son milieu vers l'extérieur, le dispositif à siphon (30) étant monté sur sa zone médiane.

10. Dispositif selon l'une quelconque des revendications précédentes, dans lequel sur l'intérieur de la partie en forme de bac (3) du réservoir, on a prévu au moins une butée (5, 18, 19, 58) sur laquelle est supportée une partie de paroi (15) de la partie du réservoir en forme de panier (2) ou du bloc contenant les ingrédients actifs placé dans le réservoir.

11. Dispositif selon l'une quelconque des revendications précédentes, dans lequel la partie du réservoir en forme de bac (3, 51) et le réservoir ou couvercle (2, 62) dans celle-ci ou sur elle présentent des sections transversales semi-circulaires ou circulaires.

12. Dispositif selon l'une quelconque des revendications précédentes, comportant une chambre latérale (29) qui rejoint le réservoir ou la partie en forme de bac (3, 51) du réservoir sur un côté, cette chambre latérale formant la transition vers le dispositif à siphon (30), ce côté ayant une paroi de fond (31) faisant tangentiellement saillie vers l'extérieur à partir de l'endroit le plus profond du réservoir ou de la partie du réservoir (3, 51) et deux parois latérales (33, 34) transversales par rapport à l'axe du réservoir.

13. Dispositif selon l'une quelconque des revendications précédentes, dans lequel un couvercle (41) du dispositif à siphon présente un tampon creux (46) de section transversale rectangulaire, l'espace creux (47) dans le tampon formant au moins une partie d'un espace de transition (40) depuis la gouttière (36) du tuyau ascendant vers la gouttière (37) du tuyau descendant.

14. Dispositif selon la revendication 13, dans lequel le couvercle (41) présente une bordure (45)

faisant saillie vers un côté du tampon (46) et dans la bordure (50) à côté du dispositif à siphon (50) est pratiqué un évidement (44) pour cette bordure de couvercle (45).

15. Dispositif selon l'une quelconque des reven-

dications précédentes, dans lequel le tuyau ascendant et le tuyau descendant (36, 37) du dispositif à siphon (30) sont montés l'un à côté de l'autre parallèlement à la paroi extérieure du réservoir.

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Fig.1.

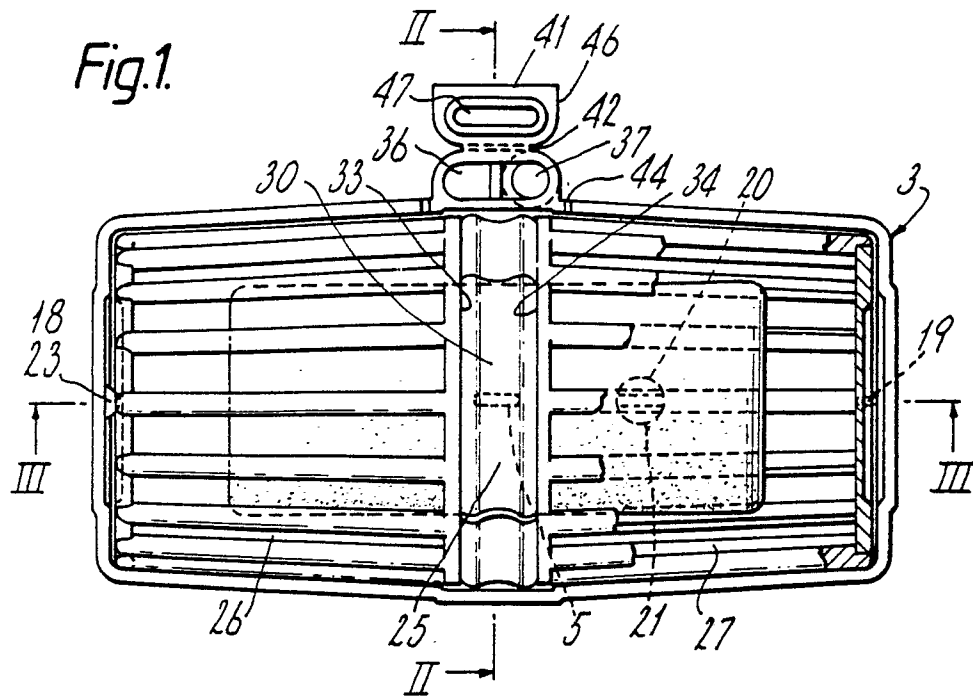


Fig.1A.

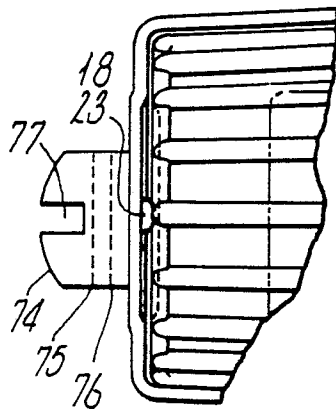


Fig.2.

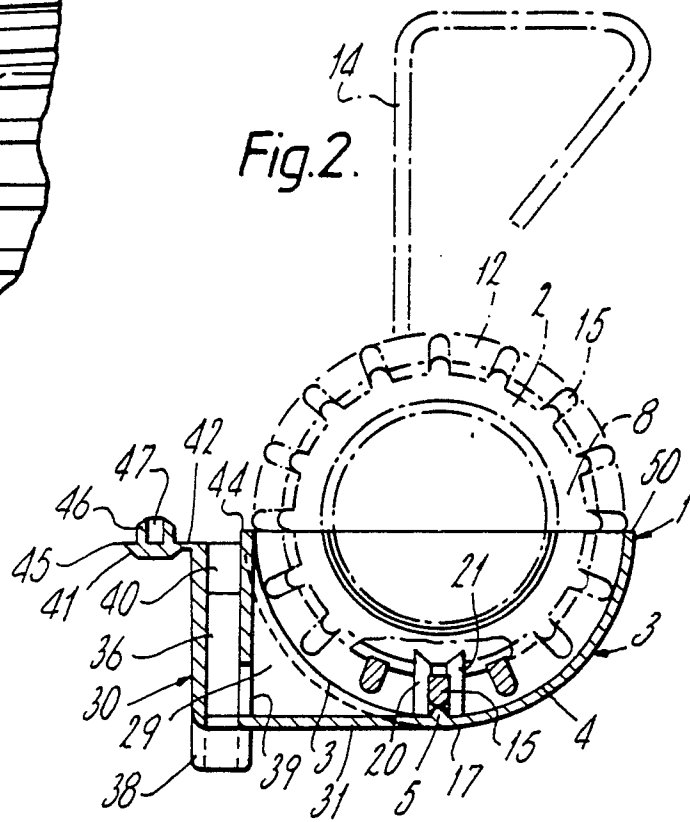


Fig. 3.

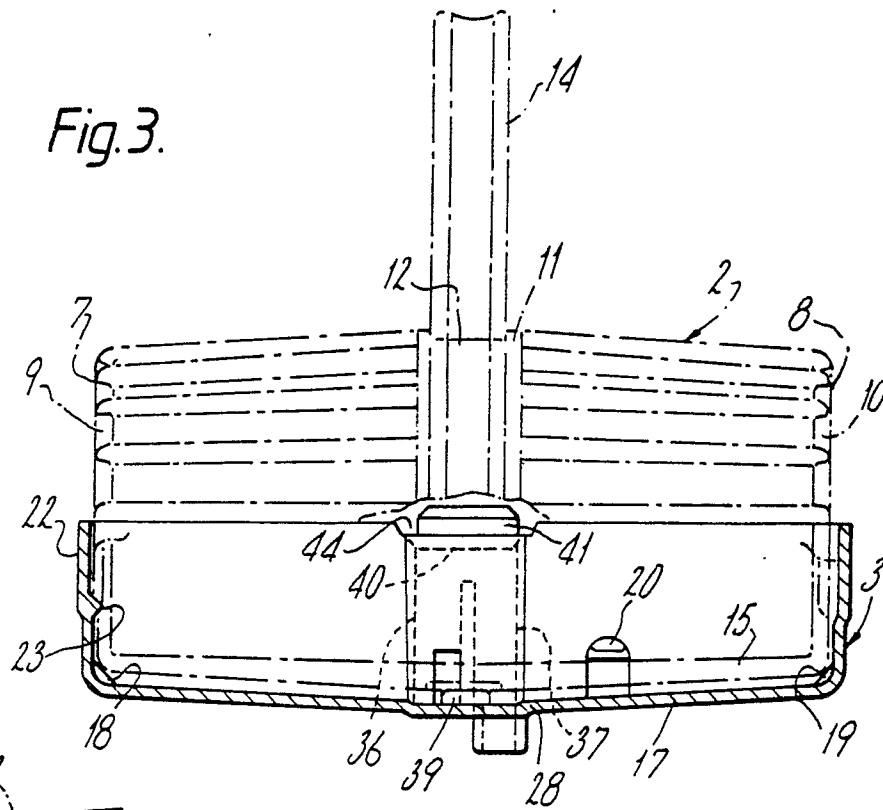


Fig. 3A.

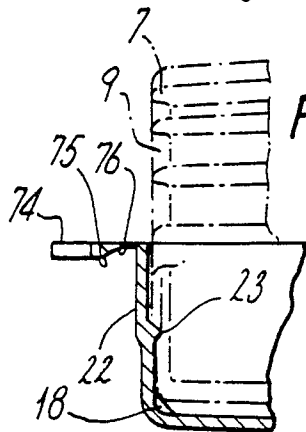


Fig. 4.

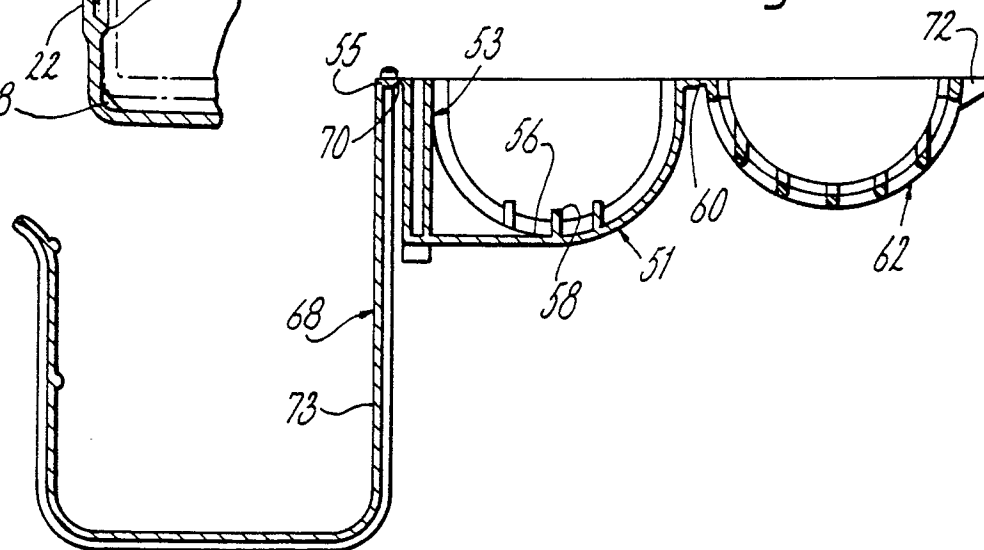


Fig.5.

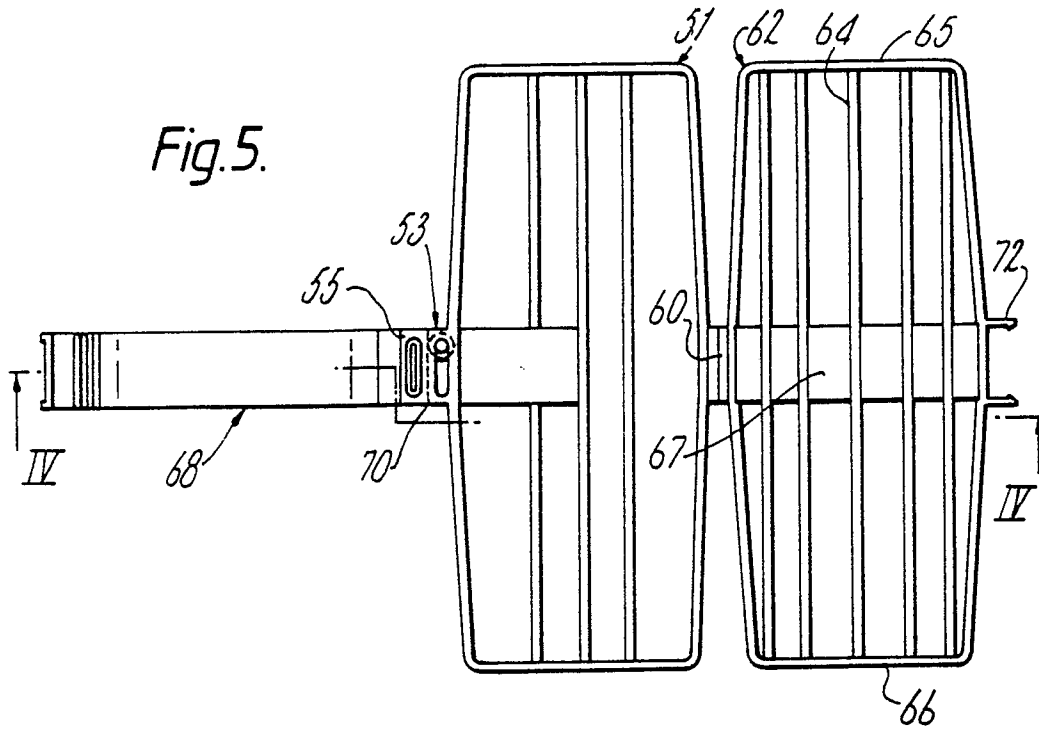


Fig.6.

