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(54) **CONTROL PLATE ASSEMBLY OF A FLUSHING TANK, AND ASSEMBLING SYSTEM AND METHOD THEREOF**

STEUERUNGSPLETTENANORDNUNG EINES SPÜLTANKS UND ANORDNUNGSSYSTEM UND VERFAHREN DAFÜR

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Description

[0001] The present invention relates to a control plate assembly of a flushing tank, according to the preamble of claim 1, and to a system and a method for assembling control plate assemblies of flushing tanks.

[0002] A control plate assembly of a walled or recessed flushing tank generally comprises a mounting counterplate, shaped as a frame and which is fixed to the wall or to a front wall of the tank, about an inspection opening which allows to access the interior of the tank and the drain valve accommodated therein; and a cover plate, detachably fixed to the counterplate and provided with one or two control buttons which cooperate with actuating members of the drain valve. Such a control plate assembly is described in DE 202006012664U and in EP2476808.

[0003] The buttons are usually hinged to the plate, while the actuating members of the drain valve are supported by the counterplate and arranged through the inspection opening.

[0004] This type of assembly, with the buttons hinged to the plate and the actuating members supported by the counterplate, is not entirely satisfactory, as it creates problems of effective coupling between the buttons and the actuating members.

[0005] Furthermore, the plate and its buttons are the visible components of the control plate assembly and take on various shapes. Therefore, multiple different plates with different buttons are manufactured, essentially for aesthetic reasons.

[0006] Each plate generally requires a specifically designed counterplate, because each plate is provided with buttons with different shapes and sizes and placed in different positions, and as a result the counterplate must support the actuating members in such a position as to interact with the buttons carried by the plate.

[0007] Ultimately, in order to change the aesthetic appearance of a control plate assembly, virtually all the main components thereof (counterplate, plate, buttons) need to be replaced.

[0008] Therefore, a large amount of different pieces need to be handled (manufacture, warehousing, transport, etc.), with consequent production and logistics problems.

[0009] It is an object of the present invention to provide a control plate assembly of a flushing tank, which is free from the drawbacks of the known art mentioned herein.

[0010] It is a further object of the invention to provide a system and a method for assembling a control plate assembly of a flushing tank, which allow different control plate assemblies (in particular, having different aesthetic appearance) to be manufactured in a simple and affordable manner, with a reduced number of different components.

[0011] Therefore, the present invention relates to a control plate assembly of a flushing tank as defined in essential terms in appended claim 1.

[0012] The present invention also relates to a system and a method for assembling a control plate assembly of a flushing tank as defined in essential terms in appended claims 7 and 8, respectively.

[0013] The control plate assembly of the invention is simple and cost-effective to be manufactured and assembled, and is also completely efficient and reliable.

[0014] Furthermore, the control plate assembly of the invention is manufactured with an assembly system and method which allow a variety of different control plate assemblies (in particular, having different aesthetic appearance) to be manufactured in a simple and affordable manner, with a reduced number of different components.

[0015] Further features and advantages of the present invention will become apparent from the following description of a non-limiting embodiment thereof, with reference to the figures of the accompanying drawings, in which:

- figure 1 is a front exploded perspective view of a control plate assembly of a flushing tank in accordance with the invention;
- figure 2 is a partial front view, with parts removed for clarity, of certain components of the control plate assembly in figure 1, once assembled;
- figure 3 is a front perspective view, on enlarged scale, of a detail of the control plate assembly in figure 1, once assembled;
- figure 4 is a rear perspective view, on enlarged scale, of a further detail of the control plate assembly in figure 1, once assembled;
- figures 5 and 6 are two front views, with parts removed for clarity, of the control plate assembly of the invention, diagrammatically shown in respective assembly alternatives.

[0016] With reference to figure 1, a control plate assembly 1 of a flushing tank (not shown) comprises a mounting counterplate 2; a cover plate 3, joined to the counterplate by a releasable connecting system 4; and at least one control button 5 cooperating, in use, with an actuating member 6 of a drain valve (not shown) of the flushing tank.

[0017] In the example shown in figure 1, the control plate assembly 1 comprises two control buttons 5 cooperating, in use, with respective actuating members 6 of the drain valve for actuating different flushing modes, namely for actuating a complete flush or a partial flush of the water contained in the flushing tank selectively.

[0018] With reference also to figure 2, counterplate 2 comprises a frame 7, for example substantially rectangular and consisting of two pairs of substantially perpendicular sides 8, 9; for example, in use (i.e. when the control plate assembly 1 is mounted on a flushing tank), the frame has one upper horizontal side 8, one lower horizontal side 8, and two vertical sides 9.

[0019] Frame 9 has an inner peripheral edge 10, which delimits a middle opening 11, and an outer peripheral

edge 12.

[0020] The counterplate 2 comprises ribs 14a, 14b which project into the opening 11 from edge 10. In particular, counterplate 2 comprises a first pair of (vertical) ribs 14a, which connect the opposite sides 8, and a second pair of (horizontal) ribs 14b, which connect respective sides 9 with a rib 14a.

[0021] The counterplate 2 is provided with fastening members 16 for fixing the counterplate 2 to the flushing tank; for example, the fastening members 16 comprise a pair of fastening seats 17 formed on the counterplate 2 and a pair of screws 18 which engage the seats 17 and respective further fastening seats (not shown) on the tank (or on a component fixed to the tank).

[0022] For example, the seats 17 are obtained on respective portions 19 of counterplate 2, in particular of the ribs 14b, which project into the opening 11 from edge 10.

[0023] The screws 18 comprise respective heads 20, which axially engage the seats 17, and respective threaded rods 21, which project from the heads 20 and cross the seats 17 to engage the fastening seats on the tank.

[0024] The counterplate 2 is provided with supports 22 for the actuating members 6.

[0025] In particular, the supports 22 are defined by respective portions 23 of counterplate 2, for example of the ribs 14a, which project into the opening 11 from edge 10; each support 22 has a support seat 24, defined by a through hole obtained in portion 23 and which accommodates an actuating member 6.

[0026] Each actuating member 6 comprises, for example, a rod 25 which extends from support 22 and engages an element of an actuation mechanism of the drain valve (known and not shown for simplicity); and a head 26, which protrudes from the support seat 24 towards plate 3 to cooperate with a button 5.

[0027] Plate 3 may have various shapes and aesthetic finishings. Plate 3 generally comprises a front wall 27 and a peripheral edge 28 which surrounds the outer edge 12 of counterplate 2.

[0028] Plate 3 has at least one window 29, formed in a through manner through the front wall 27.

[0029] Plate 3 is detachably fixed to the counterplate 2 via the connecting system 4, which is of known type and therefore is not described in detail for simplicity. The connecting system 4 generally comprises coupling teeth which engage respective seats, carried by counterplate 2 and by plate 3, respectively, or vice versa; and a releasable locking element, spring-loaded and mounted on the counterplate for coupling the plate.

[0030] The buttons 5 are hinged to counterplate 2 via respective supports 30 fixed to the counterplate 2.

[0031] Each button 5 extends between a root end 31, hinged to the respective support 30, and a free end 32, opposite to the root end 31 and provided with a driving portion 33, inserted into window 29 so as to be operable by a user through window 29.

[0032] A connecting portion 34 connects the driving portion 33 to the root end 31.

[0033] Each button 5 is joined to the respective support 30 via a hinge releasable coupling device 35, so that button 5 is detachable from support 30.

[0034] For example, as shown in figures 3 and 4, the hinge releasable coupling device 35 comprises a pair of aligned pins 36 and a pair of rotation seats 37, formed on button 5 and on support 30, respectively, or vice versa and defining a rotation axis R of button 5 with respect to support 30; the seats 37 are shaped so as to receive the pins 36, which are snap-insertable into the seats 37; button 5 rotates with respect to support 30 about the rotation axis R and is restrained to support 30 transversely and parallel to the rotation axis R.

[0035] Support 30 has an elongated base body 38 along a longitudinal axis A parallel to the rotation axis R (or coincident therewith).

[0036] Support 30 is provided with a stop element 39 which projects from the base body 38 and cooperates in abutment against a contact portion 40 of button 5 to limit the rotation of button 5.

[0037] The buttons 5 and supports 30 advantageously consist of respective monolithic pieces.

[0038] In the preferred embodiment shown, the supports 30 are detachable supports, insertable into respective coupling seats 41, 42 formed on the counterplate 2. Each support 30 is detachably attachable to a coupling seat 41, 42 (and therefore to counterplate 2), via releasable fastening elements 43, 44 formed on support 30 and on counterplate 2, respectively, and cooperating together to restrain support 30 to counterplate 2 integrally in the coupling seat 41, 42.

[0039] The counterplate 2 is provided with a plurality of coupling seats 41, 42, formed on the counterplate 2 along the edge 10, namely along at least two perpendicular sides 8, 9 of counterplate 2.

[0040] Each seat 41, 42 is shaped so as to receive a support 30, attachable to seat 41, 42 via the fastening elements 43, 44.

[0041] The supports 30 of the two buttons 5 are advantageously equal, as well as all the seats 41, 42; the supports 30 are thus interchangeable in the seats 41, 42.

[0042] In particular, counterplate 2 is provided with at least a first coupling seat 41 and a second coupling seat 42, arranged on respective sides 8, 9 perpendicular to counterplate 2.

[0043] In the preferred embodiment shown, the counterplate 2 is provided with a pair of first coupling seats 41, placed side-by-side on the upper horizontal side 8 of counterplate 2; and with a pair of second coupling seats 42, placed on respective opposite vertical sides 9 of counterplate 2.

[0044] Each button 5 is selectively attachable to a coupling seat 41, 42, via support 30, so as to rotate about the rotation axis (R) of the corresponding support 30.

[0045] In particular, the two buttons 5 are selectively attachable either to seats 41 or seats 42.

[0046] If the buttons 5 are mounted in the seats 41, as diagrammatically shown in figure 5, the buttons 5 are

arranged side-by-side and have horizontal rotation axes R (parallel and coincident, i.e. they have a common rotation axis).

[0047] If the buttons 5 are mounted in the seats 42, as diagrammatically shown in figure 6, the buttons 5 are arranged facing and opposite each other and have vertical (parallel and separate) rotation axes.

[0048] Each button 5 is coupled to the respective seat 41, 42 via a support 30, inserted into a seat 41, 42 selected from the plurality of seats 41, 42 formed on counterplate 2.

[0049] The fastening elements 43, 44 comprise, for example, teeth projecting from support 30, and corresponding recesses formed on the counterplate 2 (precisely, on edge 10) and engaged by the teeth; the teeth are insertable into the recesses along a sliding direction perpendicular to the longitudinal axis A of support 30 and to counterplate 2 (i.e., to a front face of counterplate 2); the teeth and recesses are shaped (for example dovetail-shaped) so as to couple to one another, via respective pairs of opposite shoulders, according to two directions orthogonal to each other and transversal to the sliding direction.

[0050] A pair of elastic teeth 47 projects from support 30 parallel to the sliding direction in order to be snappingly coupled to edge 10, thus engaging corresponding recesses 48 formed in the counterplate 2, so as to lock support 30 to counterplate 2 between two opposite shoulders also along the sliding direction.

[0051] The control plate assembly 1 may be assembled both with the buttons 5 arranged side-by-side along one side, for example the upper horizontal side 8, of counterplate 2 and therefore with horizontal rotation axes R, as diagrammatically shown in figure 5; and with the buttons 5 arranged facing and opposite each other along opposite sides, for example the vertical sides 9, of counterplate 2, with vertical rotation axes R, as diagrammatically shown in figure 6.

[0052] Plates 3 and buttons 5 having various designs will be used, while keeping however the same counterplate 2 and the same supports 30.

[0053] More generally, a plurality of different cover plates 3 may be implemented, having different aesthetic appearances, in particular different shape of window 29; and a plurality of control buttons 5 associated with each different plate 3, designed to be coordinated with plate 3 and in particular with the driving portion 33 being insertable into the window of plate 3.

[0054] The same mounting counterplate 2 and the same supports 30 will always be used instead.

[0055] The dotted line in figures 5 and 6 shows, in the two configurations with buttons 5 placed side-by-side and buttons 5 placed opposite to each other, the areas available for designing the buttons 5 with respect to plate 3 (also drawn with dotted line) and to counterplate 2; however, the buttons 5 are hinged to the counterplate 2 via the respective supports 30 and contact the respective actuating members 6 in respective actuation areas 50

(about the heads 26 of the actuating members 6).

[0056] The control plate assembly 1 may therefore be made in different shapes.

[0057] In order to change the aesthetic appearance of the control plate assembly 1, it is sufficient to use a different cover plate 3 and one or two buttons 5 coordinated with plate 3, while the counterplate 2 and the supports 30 remain unvaried.

[0058] The invention thus allows the control plate assemblies 1 (having different aesthetic aspect) to be assembled with a reduced number of components.

[0059] Indeed, the invention also provides a system for assembling control plate assemblies having different appearance; the system comprises the mounting counterplate 2 (i.e. only one type of counterplate); a plurality of cover plates 3, different from one another, interchangeable on counterplate 2 and mountable on counterplate 2 by means of the releasable connecting system 4; one or two buttons 5, coordinated with each plate 3 and different from the buttons 5 associated with other plates 3; one or two supports 30 of the same type (equal).

[0060] All the buttons 5 associated with the different plates 3 are selectively attachable to the same counterplate 2 via a support 30, which is suitable for all the buttons 5 as it is rotatably (i.e. pivotally) couplable to each button 5 and attachable to counterplate 2.

[0061] Therefore, with only one type of mounting counterplate 2 and only one type of support 30, different control plate assemblies 1 may be manufactured, by varying the cover plates 3 and the corresponding control buttons 5.

[0062] The control plate assembly 1 is thus assembled by the method which comprises the steps of:

- providing a mounting counterplate 2 (i.e. only one type of mounting counterplate);
- providing a plurality of cover plates 3, different from one another, interchangeable on counterplate 2 and mountable on counterplate 2 by means of a releasable connecting system 4;
- providing, for each plate 3, one or two buttons 5, coordinated with plate 3; all the buttons 5 are selectively attachable to counterplate 2 via a support 30, which is rotatably couplable to each button 5 and attachable to counterplate 2;
- selecting a plate 3 and the button or buttons 5 coordinated with said plate 3;
- mounting the button or buttons 5 on counterplate 2, via one support 30 or respective supports 30;
- mounting plate 3 on counterplate 2.

[0063] Finally, it is understood that further modifications and variants may be made to the control plate assembly and to the assembly system and method described and shown herein, which do not depart from the scope of the appended claims.

Claims

1. A control plate assembly (1) for a flushing tank, comprising a mounting counterplate (2); a cover plate (3), joined to the counterplate (2) by a releasable connecting system (4); and at least one control button (5), cooperating, in use, with an actuating member (6) of a drain valve of the flushing tank; the button (5) being hinged to the counterplate (2) via a support (30) fixed to the counterplate (2); the counterplate (2) being provided with at least a first and a second coupling seat (41, 42), shaped so as to receive the support (30); the control plate assembly (1) being **characterized in that** the at least first and second seats are positioned on respective sides (8, 9), perpendicular to each other of the counterplate (2), and **in that** the button (5) is attachable selectively to one coupling seat (41, 42) or the other, via the support (30), so as to rotate about respective rotation axes (R) perpendicular to each other. 5 10 15 20
2. A control plate assembly according to claim 1, wherein the support (30) is a detachable support, attachable to the counterplate (2) via releasable fastening elements (43, 44) formed on the support (30) and on the counterplate (2) respectively and cooperating with one another. 25
3. A control plate assembly according to claim 1 or 2, wherein the button (5) is joined to the support (30) via a hinge releasable coupling device (35), so as the button (5) is detachable from the support (30). 30
4. A control plate assembly according to one of the preceding claims, comprising two control buttons (5), cooperating in use with respective actuating members (6) of the drain valve for actuating different flushing modes; and wherein the counterplate (2) is provided with a pair of first coupling seats (41), positioned side-by-side on a first side (8) of the counterplate (2); and a pair of second coupling seats (42), positioned on respective opposite sides (9) of the counterplate (2) and perpendicular to said first side (8); the buttons (5) being selectively attachable to the first coupling seats (41) or to the second coupling seats (42). 35 40 45
5. A control plate assembly according to one of the preceding claims, wherein the support (30) is insertable in a coupling seat (41, 42) selected in a plurality of coupling seats (41, 42) formed on the counterplate (2). 50
6. A control plate assembly according to one of the preceding claims, wherein the cover plate (3) has at least one window (29) and the button (5) is inserted at least partly in said window (29), so as to be operable by a user through the window (29). 55

7. A system for assembling a control plate assembly (1) for a flushing tank with a control plate assembly according to one of the preceding claims, comprising a plurality of cover plates (3), different from one another, interchangeable on the counterplate (2) and mountable on the counterplate (2) by means of the releasable connecting system (4); each cover plate (3) being associated to one or two buttons (5), coordinated with the cover plate (3) and different from the buttons associated to other cover plates (3); all the buttons (5) being selectively attachable to the counterplate (2) via a support (30) of the system, which is rotatably couplable to each button (5) and attachable to the counterplate (2). 5 10 15 20
8. A method for assembling a control plate assembly (1) for a flushing tank according to one of claims 1 to 6, comprising the steps of: 25
 - providing a mounting counterplate (2);
 - providing a plurality of cover plates (3), different from one another, interchangeable on the counterplate (2) and mountable on the counterplate (2) by means of a releasable connecting system (4);
 - providing, for each cover plate (3), one or two buttons (5), coordinated with the cover plate (3) and different from the buttons associated to other cover plates (3); all the buttons (5) being selectively attachable to the counterplate (2) via a support (30), which is rotatably couplable to each button (5) and attachable to the counterplate (2);
 - selecting a cover plate (3) and the button or buttons (5) coordinated with the cover plate (3);
 - mounting the button or buttons (5) on the counterplate (2), via one support or respective supports (30) ;
 - mounting the plate (3) on the counterplate (2).

Patentansprüche

1. Steuerplattenanordnung (1) für einen Spülkasten, umfassend eine Montagegegenplatte (2); eine Abdeckplatte (3), die mit der Gegenplatte (2) durch ein lösbares Verbindungssystem (4) verbunden ist; und zumindest eine Steuertaste (5), die bei Gebrauch mit einem Betätigungsglied (6) eines Ablassventils des Spülkastens zusammenwirkt; wobei die Taste (5) an der Gegenplatte (2) über einen Träger bzw. eine Stütze (30) drehbar angelenkt ist, der bzw. die an der Gegenplatte (2) befestigt ist; wobei die Gegenplatte (2) mit zumindest einem ersten und einem zweiten Kopplungssitz (41, 42) versehen ist, die so geformt sind, dass sie den Träger (30) aufnehmen; wobei die Steuerplattenanordnung (1) **dadurch gekennzeichnet ist, dass** der zumindest erste und 45 50 55

- zweite Sitz senkrecht zueinander auf jeweiligen Seiten (8, 9) der Gegenplatte (2) angeordnet sind; und dadurch, dass die Taste (5) wahlweise an einem Kopplungssitz (41, 42) oder dem anderen über den Träger (30) anbringbar ist, um sich um jeweilige Drehachsen (R) senkrecht zueinander zu drehen.
2. Steuerplattenanordnung nach Anspruch 1, wobei der Träger (30) ein abnehmbarer Träger ist, der an der Gegenplatte (2) über lösbare Befestigungselemente (43, 44) anbringbar ist, die an dem Träger (30) bzw. an der Gegenplatte (2) gebildet sind und miteinander zusammenwirken.
3. Steuerplattenanordnung nach Anspruch 1 oder 2, wobei die Taste (5) mit dem Träger (30) über eine lösbare Scharnierkopplungsvorrichtung (35) verbunden ist, damit die Taste (5) von dem Träger (30) abnehmbar ist.
4. Steuerplattenanordnung nach einem der vorhergehenden Ansprüche, umfassend zwei Steuertasten (5), die bei Gebrauch mit jeweiligen Betätigungsgliedern (6) des Ablaufventils zur Betätigung unterschiedliche Spülmodi zusammenwirken; und wobei die Gegenplatte (2) mit einem Paar erster Kopplungssitze (41), die Seite an Seite auf einer ersten Seite (8) der Gegenplatte (2) positioniert sind; und einem Paar zweiter Kopplungssitze (42) versehen ist, die auf jeweils gegenüberliegenden bzw. entgegengesetzten Seiten (9) der Gegenplatte (2) und senkrecht zu der ersten Seite (8) positioniert sind; wobei die Tasten (5) wahlweise an den ersten Kopplungssitzen (41) oder den zweiten Kopplungssitzen (42) anbringbar sind.
5. Steuerplattenanordnung nach einem der vorhergehenden Ansprüche, wobei der Träger (30) in einen Kopplungssitz einführbar ist (41, 42), der in bzw. aus einer Mehrzahl von Kopplungssitzen (41, 42) ausgewählt ist, die an der Gegenplatte (2) sind.
6. Steuerplattenanordnung nach einem der vorhergehenden Ansprüche, wobei die Abdeckplatte (3) zumindest ein Fenster (29) aufweist und die Taste (5) zumindest teilweise in das Fenster (29) eingesetzt ist, um von einem Benutzer durch das Fenster (29) betätigt werden zu können.
7. System zum Montieren bzw. Zusammenbauen einer Steuerplattenanordnung (1) für einen Spülkasten mit einer Steuerplattenanordnung nach einem der vorhergehenden Ansprüche, umfassend eine Mehrzahl von Abdeckplatten (3), die voneinander verschieden sind, an der Gegenplatte (2) austauschbar sind und an der Gegenplatte (2) mittels des lösbaaren Verbindungssystems (4) montierbar sind; wobei jede Abdeckplatte (3) mit einer oder zwei Tasten (5) verbunden ist, die mit der Abdeckplatte (3) abgestimmt sind und von den Tasten verschieden sind, die mit anderen Abdeckplatten (3) verbunden sind; wobei alle Tasten (5) wahlweise an der Gegenplatte (2) über einen Träger bzw. eine Stütze (30) des Systems anbringbar sind, die bzw. der drehbar mit jeder Taste (5) koppelbar ist und an der Gegenplatte (2) anbringbar ist.
8. Verfahren zum Montieren bzw. Zusammenbauen einer Steuerplattenanordnung (1) für einen Spülkasten nach einem der Ansprüche 1 bis 6, umfassend die Schritte:
- Bereitstellen einer Montagegegenplatte (2);
 - Bereitstellen einer Mehrzahl von Abdeckplatten (3), die voneinander verschieden sind, an der Gegenplatte (2) austauschbar sind und an der Gegenplatte (2) mittels eines lösbaaren Verbindungssystems (4) montierbar sind;
 - Bereitstellen, für jede Abdeckplatte (3), von ein oder zwei Tasten (5), die mit der Abdeckplatte (3) abgestimmt sind und von den Tasten verschieden sind, die mit anderen Abdeckplatten (3) verbunden sind; wobei alle Tasten (5) wahlweise an der Gegenplatte (2) über einen Träger bzw. eine Stütze (30) anbringbar sind, die bzw. der drehbar mit jeder Taste (5) koppelbar ist und an der Gegenplatte (2) anbringbar ist;
 - Auswählen einer Abdeckplatte (3) und der Taste oder der Tasten (5), die mit der Abdeckplatte (3) abgestimmt sind;
 - Montieren der Taste oder der Tasten (5) an der Gegenplatte (2) über einen Träger bzw. Stütze oder jeweilige Träger bzw. Stützen (30);
 - Montieren der Platte (3) an der Gegenplatte (2).

Revendications

1. Ensemble de plaque de commande (1) pour un réservoir de chasse d'eau, comprenant une contre-plaque de montage (2) ; une plaque de protection (3), reliée à la contre-plaque (2) par un système de connexion libérable (4) ; et au moins un bouton de commande (5), coopérant, en utilisation, avec un élément d'actionnement (6) d'une valve de drainage du réservoir de chasse ; le bouton (5) étant articulé sur la contre-plaque (2) par le biais d'un support (30) fixé à la contre-plaque (2) ; la contre-plaque (2) étant dotée d'au moins un premier et un deuxième logements de couplage (41, 42), formés pour recevoir le support (30) ; l'ensemble de plaque de commande (1) étant **caractérisé en ce que** les au moins un premier et un deuxième logements sont positionnés sur des côtés respectifs (8, 9), perpendiculaires l'un par rapport à l'autre de la contre-plaque (2), et **en ce que** le bouton (5) peut

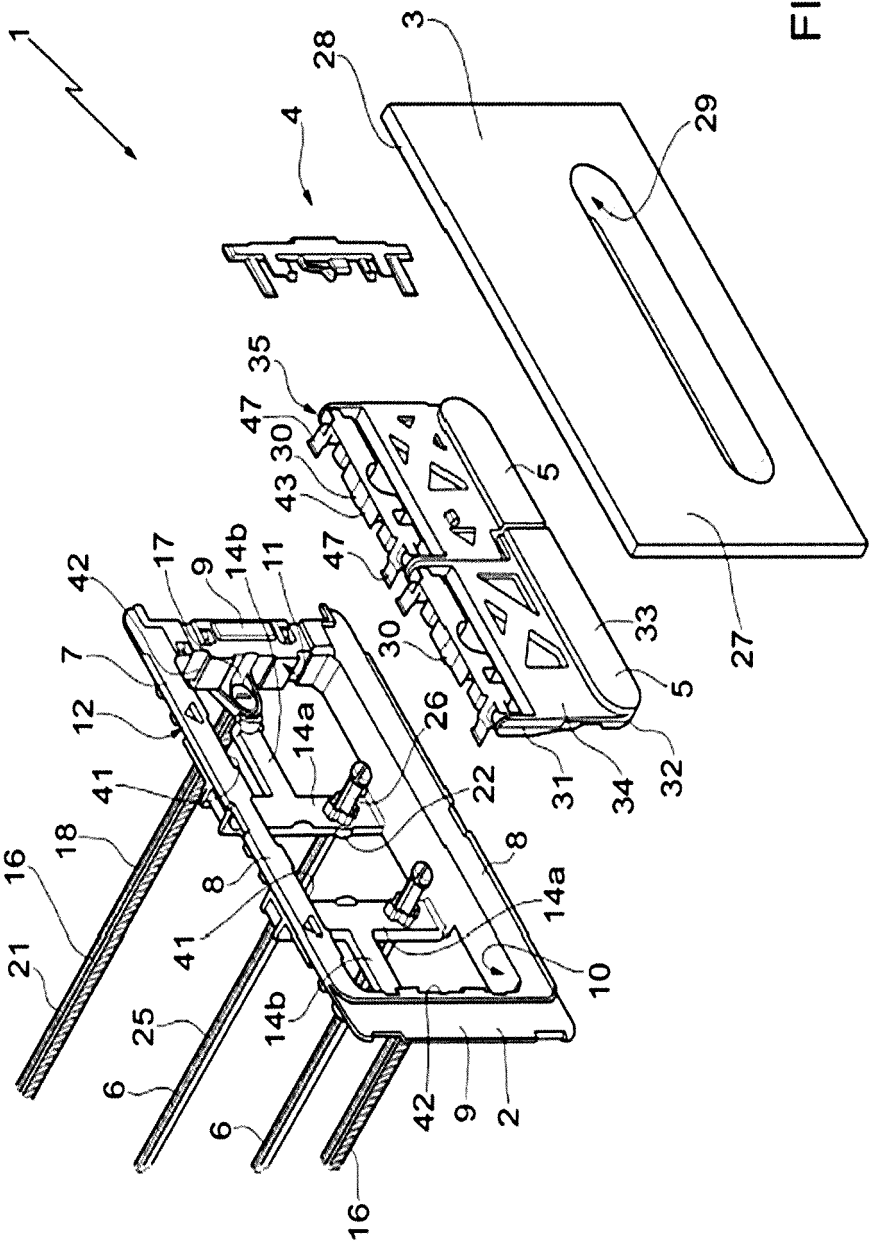
être fixé sélectivement à un logement de couplage (41, 42) ou l'autre, par le biais du support (30), de manière à tourner autour d'axes de rotation respectifs (R) perpendiculaires l'un par rapport à l'autre.

2. Ensemble de plaque de commande selon la revendication 1, dans lequel le support (30) est un support détachable, pouvant être fixé à la contre-plaque (2) par le biais d'éléments de fixation libérables (43, 44) formés sur le support (30) et sur la contre-plaque (2) respectivement et coopérant les uns avec les autres. 5
3. Ensemble de plaque de commande selon la revendication 1 ou 2, dans lequel le bouton (5) est relié au support (30) par le biais d'un dispositif de couplage libérable à charnière (35), de sorte que le bouton (5) puisse être détaché par rapport au support (30). 10
4. Ensemble de plaque de commande selon l'une quelconque des revendications précédentes, comprenant deux boutons de commande, coopérant en utilisation avec des éléments d'actionnement respectifs (6) de la valve de drainage pour actionner différents modes de chasse ; et dans lequel la contre-plaque (2) est dotée d'une paire de premiers logements de couplage (41), positionnés côte à côte sur un premier côté (8) de la contre-plaque (2) ; et une 15
paire de deuxièmes logements de couplage (42), positionnés sur des côtés opposés respectifs (9) de la contre-plaque (2) et perpendiculaires audit premier côté (8) ; les boutons (5) pouvant être fixés sélectivement aux premiers logements de couplage (41) ou aux deuxièmes logements de couplage (42). 20
5. Ensemble de plaque de commande selon l'une quelconque des revendications précédentes, dans lequel le support (30) peut être inséré dans un logement de couplage (41, 42) sélectionné dans une pluralité de logements de couplage (41, 42) formés sur la contre-plaque (2). 25
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6. Ensemble de plaque de commande selon l'une quelconque des revendications précédentes, dans lequel la plaque de protection (3) possède au moins une fenêtre (29) et le bouton (5) est inséré au moins 35
partiellement dans ladite fenêtre (29), de manière à pouvoir être utilisé par un utilisateur à travers la fenêtre (29). 40
7. Système d'assemblage d'un ensemble de plaque de commande (1) pour un réservoir de chasse d'eau avec un ensemble de plaque de commande selon l'une quelconque des revendications précédentes, comprenant une pluralité de plaques de protection (3), différentes les unes des autres, interchangeables sur la contre-plaque (2) et pouvant être montées sur la contre-plaque (2) au moyen du système de connexion libérable (4) ; chaque plaque de protec- 45
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tion (3) étant associée à un ou deux boutons (5), coordonnés avec la plaque de protection (3) et différents des boutons associés aux autres plaques de protection (3) ; tous les boutons (5) pouvant être fixés sélectivement à la contre-plaque (2) par le biais d'un support (30) du système, qui peut être couplé en rotation à chaque bouton (5) et pouvant être fixé à la contre-plaque (2).

8. Procédé d'assemblage d'un ensemble de plaque de commande (1) pour un réservoir de chasse d'eau selon l'une quelconque des revendications 1 à 6, comprenant les étapes consistant à : 55

- fournir une contre-plaque de montage (2) ;
- fournir une pluralité de plaques de protection (3), différentes les unes des autres, interchangeables sur la contre-plaque (2) et pouvant être montées sur la contre-plaque (2) au moyen d'un système de connexion libérable (4) ;
- fournir, pour chaque plaque de protection (3), un ou deux boutons (5), coordonnés avec la plaque de protection (3) et différents des boutons associés aux autres plaques de protection (3) ; tous les boutons (5) pouvant être sélectivement fixés à la contre-plaque (2) par le biais d'un support (30), qui peut être couplé en rotation à chaque bouton (5) et pouvant être fixé à la contre-plaque (2) ;
- sélectionner une plaque de protection (3) et le bouton ou les boutons (5) coordonnés avec la plaque de protection (3) ;
- monter le bouton ou les boutons (5) sur la contre-plaque (2), par le biais d'un support ou de supports (30) respectifs ;
- monter la plaque (3) sur la contre-plaque (2).



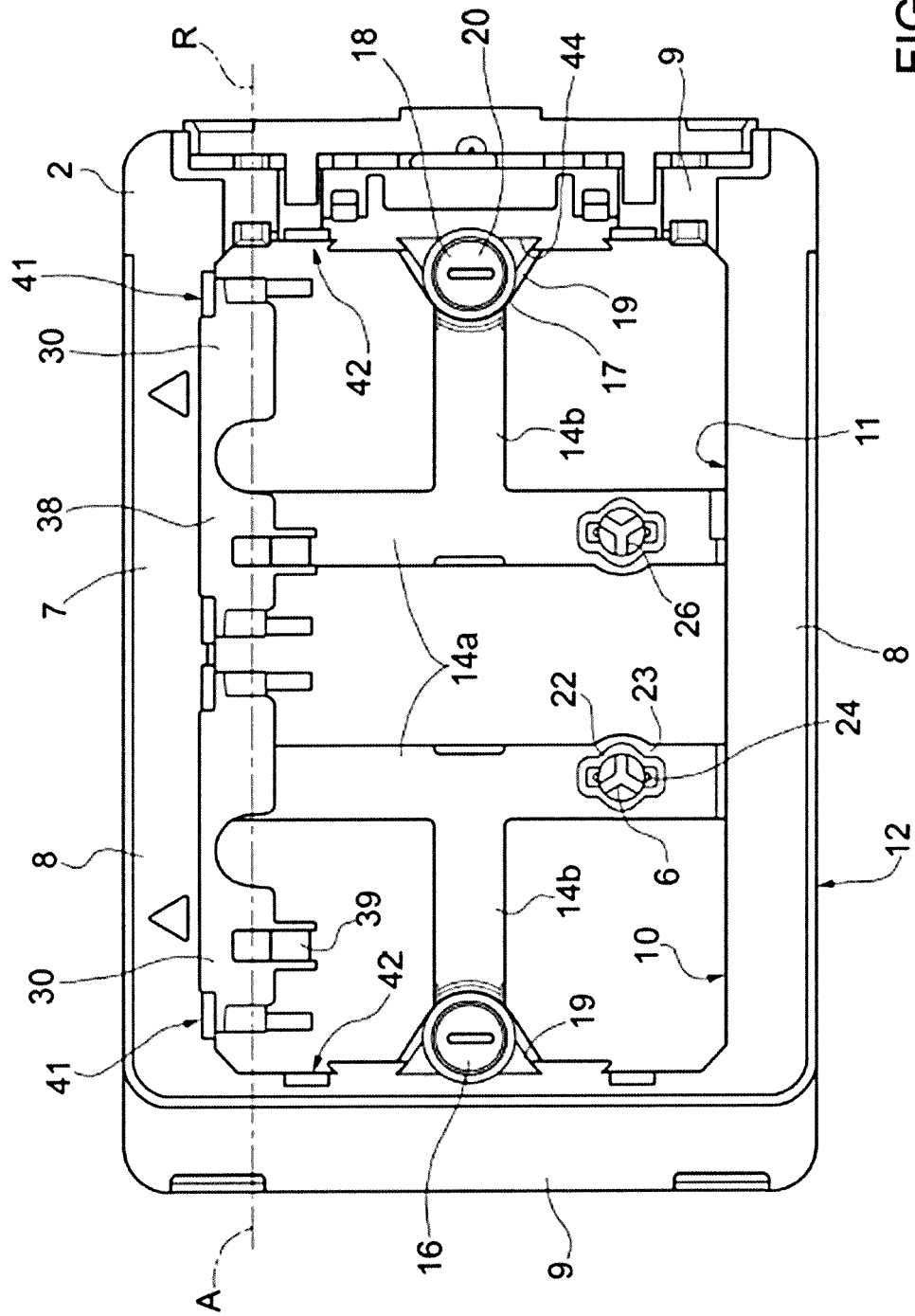
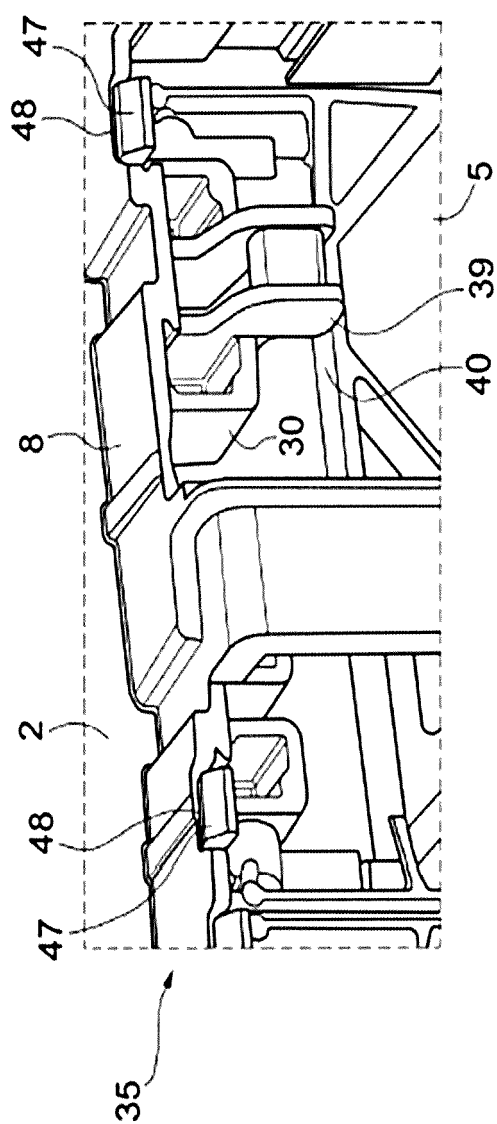
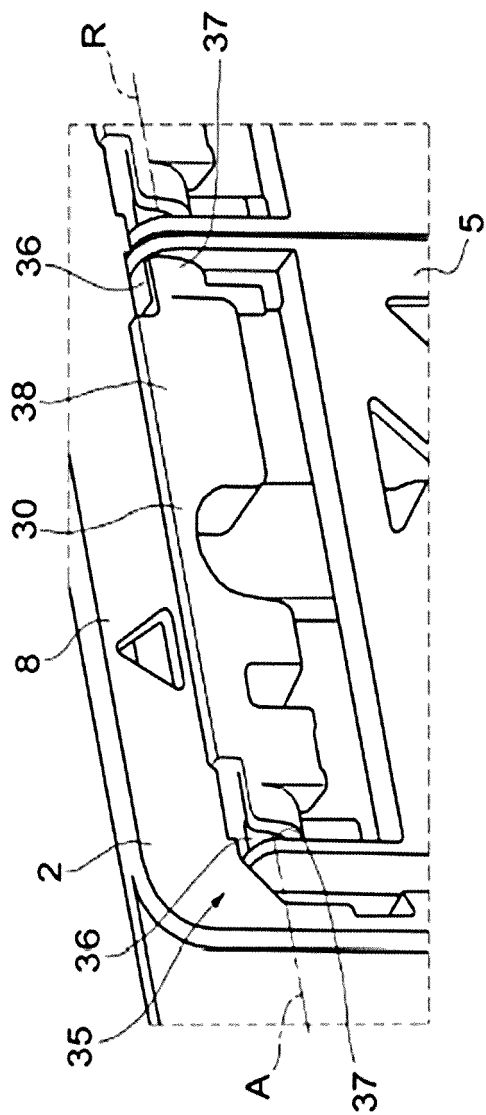


FIG. 2



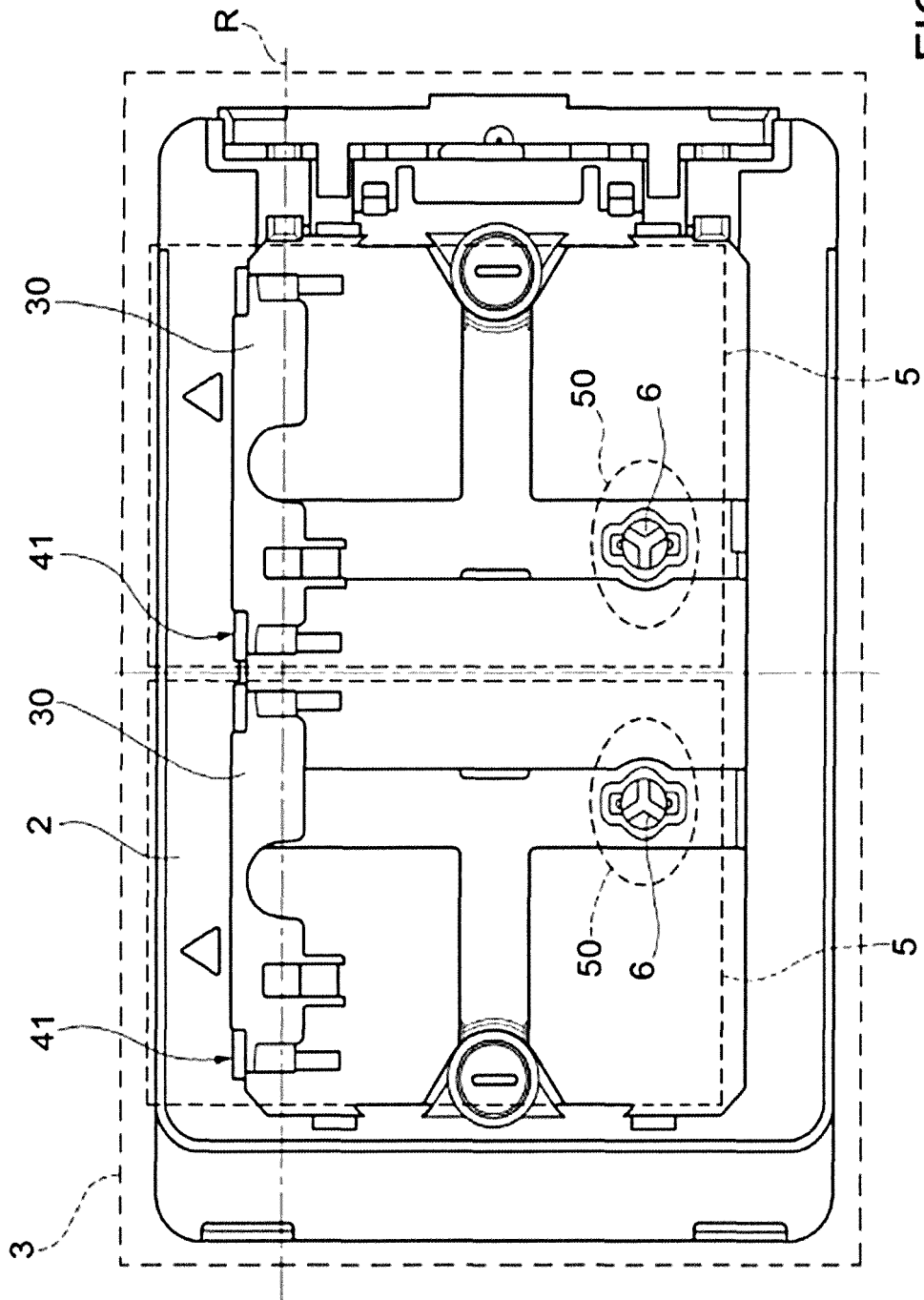


FIG. 5

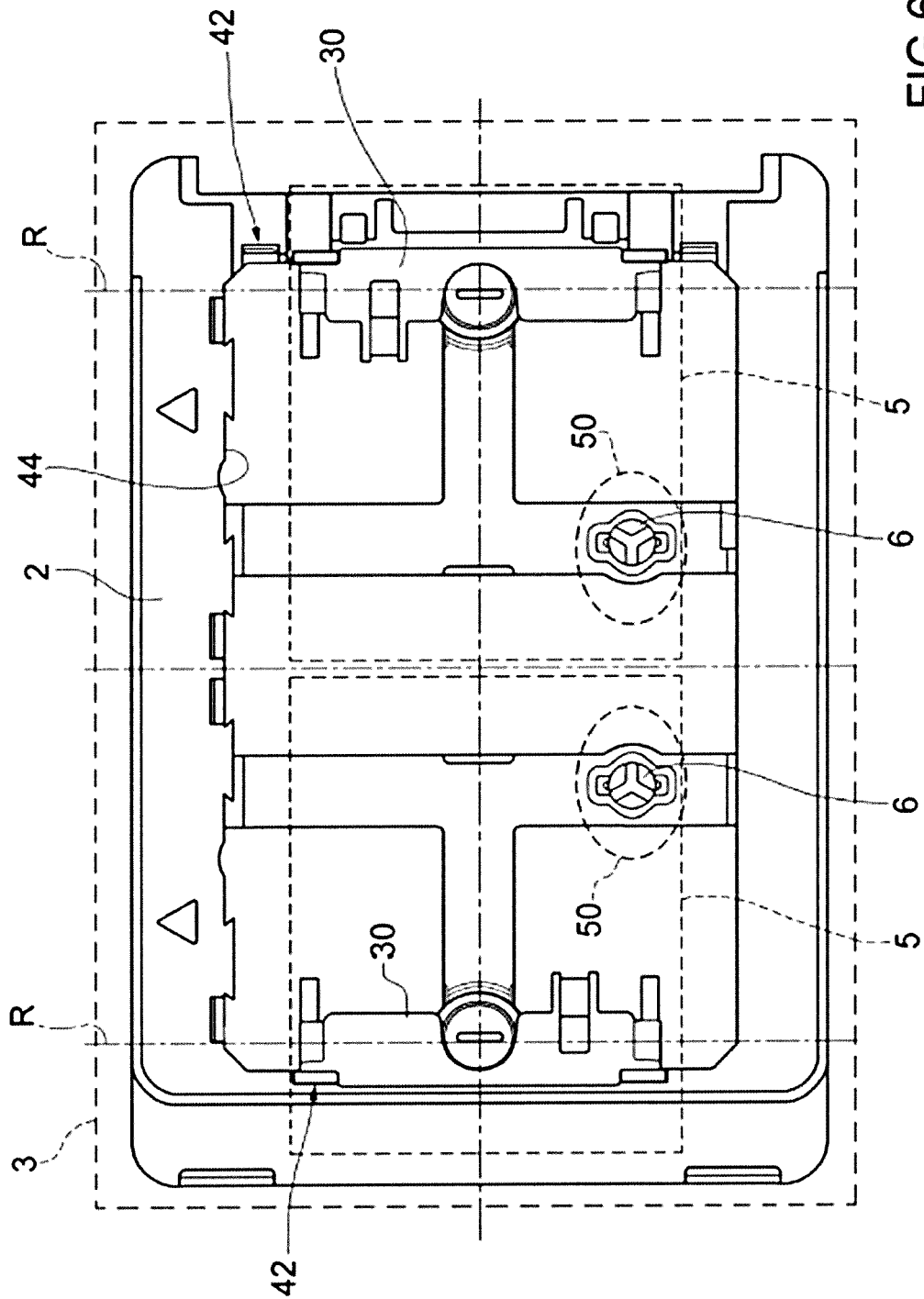


FIG. 6

REFERENCES CITED IN THE DESCRIPTION

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