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(54) **DISPENSER AND WASHING MACHINE COMPRISING THE DISPENSER**

SPENDER UND WASCHMASCHINE MIT DEM SPENDER

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(73) Proprietor: **Indesit Company S.p.A.**

60044 Fabriano (AN) (IT)

(72) Inventor: **PIERUCCI, Gianluca**

I-60030 Maiolati Spontini (Ancona) (IT)

(74) Representative: **Santonicola, Paolo**

Indesit Company S.p.A.

Industrial Property Management Team

Via Lamberto Corsi, 55

60044 Fabriano (AN) (IT)

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Description

Technical Field

[0001] This invention relates to a liquid detergent dispenser for a washing machine and a washing machine comprising the dispenser.

Background Art

[0002] Known in the prior art are washing machines comprising a washing compartment and a detergent delivery drawer which is in fluid communication with the washing compartment.

[0003] The drawer is divided into different sections, including at least one for holding the powder detergent. The drawer section for the powder detergent is in fluid communication with the washing compartment. When liquid detergent is used, to prevent the detergent from flowing into the washing compartment even before the washing cycle starts (for example, in the case of time-delayed starts), prior art teaches the use of an additional dispenser comprising a tray inserted in the drawer section which holds the liquid detergent. This tray has a siphon which extends upwards away from the bottom of the tray and which, if conveniently primed by the addition of the washing water, allows the detergent in the tray to be extracted. When the liquid detergent used is very dense, the siphon has proved to be insufficient to extract the detergent completely from the tray and detergent residues tend to remain in the tray after washing has been completed. In order to minimise this drawback, prior art washing machines have an opening made in one wall of the tray to facilitate outflow of the detergent. This opening can be occluded by a valve which pivots about an axis of rotation and if the detergents used are not dense, the valve is kept closed. In the case of dense detergents, on the other hand, it is opened.

[0004] The use of this valve is not free of disadvantages. In particular, machine vibrations, shocks caused by the closing of the drawer or the force of the detergent fluid flowing past the valve, can cause unwanted turning of the valve, thus modifying the extent to which the user has set its opening.

[0005] Secondly, the presence of rotating parts can constitute a weak point which is more easily subject to failure.

[0006] A further disadvantage is that assembly of the valve to the rest of the tray is best performed directly at the factory and not by the end user.

[0007] *Patent application US2010/0000578A1 discloses a clothes washing machine comprising a bulk dispensing system configured to deliver a charge of treating chemistry to the treating chamber and a method for automatically flushing said bulk dispensing system.*

Disclosure of the Invention

[0008] In this context, the technical purpose which forms the basis of this invention is to propose an improved liquid detergent dispenser for a washing machine that overcomes the above mentioned drawbacks of the prior art.

[0009] More specifically, the aim of this invention is to provide a liquid detergent dispenser for a washing machine which prevents user settings from being accidentally altered.

[0010] A further aim of the invention is to provide a liquid detergent dispenser which is robust and reliable.

[0011] A yet further aim of the invention is to provide a liquid detergent dispenser which is easy to assemble, allowing final assembly to be performed directly by the user.

[0012] The technical purpose and aims specified are substantially achieved by a liquid detergent dispenser for a washing machine comprising the technical features set out in one or more of the accompanying claims.

Brief Description of the Drawings

[0013] Further features and advantages of the invention are more apparent in the non-limiting description which follows of a preferred non-limiting embodiment of a liquid detergent dispenser for a washing machine illustrated in the accompanying drawings, in which:

- Figure 1 shows a washing machine comprising a liquid detergent dispenser according to this invention;
- Figure 2 shows an exploded view of the dispenser according to this invention;
- Figures 3a and 3b are two views of the dispenser according to the invention in a first configuration;
- Figures 4a and 4b are two views of the dispenser according to the invention in a second configuration.

Detailed Description of the Preferred Embodiments of the Invention

[0014] The reference numeral 1 in the accompanying drawings denotes a liquid detergent dispenser for a washing machine.

[0015] The dispenser 1 comprises a tray 2 adapted to hold the liquid detergent. The tray 2 comprises a lower base 20 (lower, in the operating configuration, with reference to the physical vertical) and lateral containment means 21 designed to receive the detergent. The base 20 is substantially quadrilateral. The lateral containment means 21 extend from, and in a direction away from, the base 20. Conveniently, the lateral containment means 21 comprise a plurality of substantially vertical flanks.

[0016] The dispenser 1 comprises a siphon 3 which extends at least partly from the lower base 20 of the tray 2 and which, if primed, allows at least part of the liquid detergent located in the tray 2 to be discharged to the

outside of the tray 2.

[0017] The siphon 3, if not primed, defines a difference in level relative to the base of the tray 2 which prevents the liquid detergent from flowing spontaneously out of the tray 2.

[0018] Conveniently, the siphon 3 comprises an inner wall 51 and an outer wall 52 between which a first stretch of a channel 53 for discharging the liquid detergent from the tray 2 is interposed. The inner wall 51 extends away from the base 20 of the tray 2. More specifically, the inner wall 51 is made as a single part with the tray 2.

[0019] Between the outer wall 52 of the siphon 3 and the base 20 there is an interposed gap which allows the detergent in the tray 2 to be introduced into the siphon 3.

[0020] Conveniently, the outer wall 52 of the siphon 3 is coaxial with the inner wall 51 of the siphon 3. The discharge channel 53 comprises a second stretch located inside the inner wall 51. The first and second stretches of the discharge channel are in fluid communication in a connecting stretch which is spaced from the base 20, in particular at one end of the inner wall 51 away from the base 20 (in the connecting stretch, the fluid inverts its outflow direction and hence the outflow direction in the first stretch of the channel 53 is opposite to that in the second stretch). In order to prime the siphon 3, the liquid in the tray 2 must reach a level above the level where the connecting stretch is located.

[0021] The lateral containment means 21 comprise an opening 22 for allowing an additional discharge of the liquid detergent.

[0022] The dispenser 1 also comprises means 4 for regulating the flow of liquid detergent through the opening 22, and able to move between a first and a second configuration. In the first configuration (see Figures 3a and 3b) the regulating means 4 occlude the opening 22 more than they do in the second configuration (see Figures 4a and 4b). In principle, in the first configuration, the opening 22 might even be completely occluded.

[0023] The regulating means 4 comprise a body 40 which in turn comprises a first panel and a second panel 41, 42, which obstruct the opening 22 in the first and in the second configuration, respectively. Conveniently, when the regulating means 4 are in the first configuration, the second panel 42 does not obstruct the opening 22 even partially. Similarly, when the regulating means 4 are in the second configuration, the first panel 41 does not obstruct the opening 22 even partially. The first panel 41, when the regulating means 4 are in the first configuration (see Figures 3a and 3b), obstructs the opening 22 more than the second panel 42 does when the regulating means 4 are in the second configuration (see Figures 4a and 4b).

[0024] The first configuration of the regulating means 4 is optimal for using a liquid detergent which is not very dense. In such case, the siphon 3 might by itself be able to discharge the detergent present in the tray 2 and the opening 22 might be completely occluded or in any case occluded more than when the regulating means 4 are in

the second configuration and the liquid detergent used is more dense. In effect, the more dense the liquid detergent is, the more the detergent residues which the siphon 3 itself is unable to discharge from the tray 2.

[0025] Conveniently, the first and second panels 41, 42 are irremovably connected to at least one portion of the siphon 3. More specifically, the outer wall 52 of the siphon 3 is irremovably constrained to the first and second panels 41, 42 (the outer wall 52 conveniently forming part of the body 40). In this regard, the outer wall 52 is integrated into the body 40.

[0026] The opening 22 is delimited by a lower edge 23 and by two edges 24a, 24b which extend away from the lower edge 23. The first panel 41 comprises a first edge 410 which, when the regulating means 4 are in the first configuration, is at (preferably facing) the lower edge 23 and the second panel 42 comprises a second edge 420 which, when the regulating means 4 are in the second configuration, is at (preferably facing) the lower edge 23. When the regulating means 4 are in the first configuration, the minimum distance between the first edge 410 and the lower edge 23 is less than the distance between the second edge 420 and the lower edge 23.

[0027] The regulating means 4 comprise an end portion 43 which the first and second panels 41, 42 extend away from. When the regulating means 4 are in the first and second configurations, the first and/or the second panel 41, 42 extending from the end portion 43 towards the base 20 of the tray 2.

[0028] The end portion 43 is integrated into the body 40. The end portion 43 is the upper portion of the regulating means 4 (the upper portion must be considered with reference to the first and second configurations of the regulating means 4). The end portion 43 is the portion of the regulating means 4 which, in the first and second configurations of the selfsame regulating means, is located at the greatest distance from the base 20 of the tray 2.

[0029] Advantageously, the end portion 43 comprises two hollows 431, 432 extending in two opposite zones of the end portion 43 for facilitating the grip on the body 40 of the regulating means 4.

[0030] Advantageously, the end portion 43 (more specifically, an upper plate 433 of the end portion 43) comprises a perimeter edge 430 comprising two hollows 431, 432 extending in two opposite perimeter portions of the perimeter edge 430 in order to facilitate the grip on the body 40 of the regulating means 4. The two hollows 431, 432 are such as to extend towards each other inside the end portion 43 (in particular, inside the plate 433). In effect, the user can insert two fingers of one hand into the two hollows 431, 432 to facilitate extraction. More specifically, without the two hollows 431, 432 a user would find it difficult (on account of the insufficient space) to insert his/her fingers between the lateral containment means 21 and the plate 433. Advantageously, the plate 433 has a first and a second visual reference 71, 72 on it. The first visual reference 71 is located at a first stretch

of the perimeter edge near where the first panel 41 extends and the second visual reference 72 is located at a second stretch of the perimeter edge 430 near where the second panel 42 extends. Typically, the first visual reference 71 or the second 72 comprises a legend which allows the user to recognise whether the first panel 41 or the second 42 is located at the opening 22 (there might also be illustrative symbols, however). In the embodiment illustrated in the accompanying drawings, the regulating means 4 (in particular the body 40), when they are in the first configuration, are rotated by 180° relative to the second configuration (compare Figures 3a and 4a or 3b and 4b).

[0031] Conveniently, the lateral containment means 21 comprise contact means 25 which, at least when the regulating means 4 are in the first and second configurations, are in contact with the body 40 of the regulating means 4, preventing any further movement of the body 40 towards the lower base 20 of the tray 2.

[0032] Conveniently, the contact means 25 also prevent the body 40 from rotating (in particular about an axis which is transversal to the base 20 and, still more specifically, which coincides with the physical vertical).

[0033] The lateral containment means 21 also comprise a recess 210 which, when the regulating means 4 are in the first and second configurations, respectively receive a first and a second protrusion 211, 212 integral with the body 40. Conveniently, the first and second protrusions 211, 212 are exactly shaped to match the recess 210. More specifically, the first and second protrusions 211, 212 exactly follow the profile of the recess 210 along the joining line (the recess 210 and the first and second protrusions 211, 212 are thus matchingly shaped). This makes it possible to prevent or limit the amount of detergent that is discharged if the level of detergent in the tray 2 exceeds the joining line. The borders of the containment means 21 which delimit the recess 210 form part of the contact means 25. Conveniently, the recess 210 is joined to the opening 22 uninterruptedly. Conveniently, there are two recesses 210, 213, which two matching protrusions 211, 215 slot into when the regulating means 4 are in the first configuration and which another two protrusions 212, 214 slot into when the regulating means 4 are in the second configuration (in the first configuration, the first protrusion 211 and a third protrusion 215 are slotted in and in the second configuration, the second protrusion 212 and the fourth protrusion 214 are slotted in). The two recesses 210, 213 extend one on each side of the opening 22 and are joined to the opening 22 uninterruptedly (see for example Figure 2).

[0034] Conveniently, the dispenser 1, preferably the body 40, comprises a first and a second graduated scale 6, 60 for measuring the volume of detergent present in the tray 2. The first and second graduated scales 6, 60 are located at the first and second panels 41, 42, respectively. In an example embodiment not illustrated, the first and second graduated scales 6, 60 are reproduced on the first and second panels 41, 42.

[0035] Conveniently (see Figures 3b and 4b) the first and second graduated scales 6, 60 comprise a first and a second tab 44, 45 which are superposed at least partly over the first and second panels 41, 42. Conveniently, the first and the second panels 41, 42 are interposed between the first and second tabs 44, 45. As illustrated by way of an example in the accompanying drawings, when the regulating means 4 are in the first and second configurations, the siphon 3 is interposed at least partly (preferably almost completely) between the first panel 41 and the second 42.

[0036] This invention also has for an object a washing machine 10 comprising:

- a washing compartment 13;
- a dispenser 1 having one or more of the technical features described above;
- a drawer 11 for inserting the detergent, the drawer 11 comprising a housing in communication with the washing compartment 13, the housing being designed to receive the dispenser 1 in a removable fashion.

[0037] If the user wishes to use powder detergent, the removable dispenser 1 described above is not used and, advantageously, the powder detergent is placed directly in the housing. By its very nature, powder detergent, even if placed in the housing, does not flow out spontaneously into the washing compartment but remains in place until it is carried out by the washing water that is made to flow in the housing during the washing cycle 12.

[0038] If the user wishes to use liquid detergent, on the other hand, the dispenser 1 must be applied to the housing. Moreover, if the liquid detergent is particularly dense, the regulating means 4 of the dispenser 1 must be set to the second configuration (see Figures 4a and 4b). Alternatively, if the liquid detergent is not very dense, the regulating means 4 of the dispenser 1 must be set to the first configuration (see Figures 3a and 3b).

[0039] Although the embodiment described above is the most preferred, the dispenser 1, generally speaking, might be irremovably integrated directly into the drawer 11 (and, for example, an additional housing provided for powder detergent).

[0040] The invention as described herein brings numerous advantages.

[0041] In particular, it guarantees that the user's setting of the dispenser opening remains unaltered and unaffected by vibrations or the force of the fluid flowing through it. Further, the regulating means are shaped in such a way as to make them solid and robust.

[0042] Another important advantage is constructional simplicity since the regulating means 4 (and more specifically, the body 40) can be made by moulding and easily assembled to the tray (also made preferably by moulding) directly by the end user. That means the dispenser need not be factory-assembled.

[0043] It shall be understood that the invention de-

scribed above may be modified and adapted in several ways without departing from the scope of the inventive concept. Moreover, all the details of the invention may be substituted by other technically equivalent elements. In practice, all the materials used, as well as the dimensions, may vary according to requirements.

Claims

1. A liquid detergent dispenser for a washing machine comprising:

- a tray (2) for containing the liquid detergent and comprising a lower base (20) and lateral containment means (21) designed to receive the detergent;
- a siphon (3) at least partly extending from the lower base (20) of the tray (2) for allowing the discharge of at least part of the liquid detergent located in the tray (2), the lateral containment means (21) comprising an opening (22) for allowing an additional discharge of the liquid detergent;
- means (4) for regulating the flow of liquid detergent through the opening (22), the regulating means being able to move between a first and a second configuration;

characterised in that the regulating means (4) comprise a body (40) which in turn comprises a first panel and a second panel (41, 42), the first panel and the second panel obstructing the opening (22) respectively in the first and second configurations of the regulating means (4); the first panel (41), when the regulating means (4) are in the first configuration, obstructing the opening (22) more than the second panel (42) when the regulating means (4) are in the second configuration.

2. The dispenser according to claim 1, **characterised in that** the first and second panels (41, 42) are irremovably connected to at least one portion of the siphon (3).
3. The dispenser according to claim 1 or 2, **characterised in that** the siphon (3) comprises an inner wall (51) and an outer wall (52) between which a first stretch of a channel (53) for discharging the liquid detergent from the tray (2) is interposed, the outer wall (52) being irremovably connected to the first and second panels (41, 42).
4. The dispenser according to any of the foregoing claims, **characterised in that** the opening (22) is delimited by a lower edge (23) and by two edges (24a, 24b) which extend away from the lower edge (23); the first panel (41) comprising a first edge (410)

which, when the regulating means (4) are in the first configuration, is at the lower edge (23), the second panel (42) comprising a second edge (420) which, when the regulating means (4) are in the second configuration, is at the lower edge (23); when the regulating means (4) are in the first configuration, the minimum distance between the first edge (410) and the lower edge (23) being less than the distance between the second edge (420) and the lower edge (23).

5. The dispenser according to any of the foregoing claims, **characterised in that** the regulating means (4) comprise an end portion (43) away from which the first and second panels (41, 42) extend; when the regulating means (4) are in the first and second configurations, the first or second panel (41, 42) extending from the end portion (43) towards the base (20) of the tray (2).
6. The dispenser according to claim 5, **characterised in that** the end portion (43) comprises two hollows (431, 432) extending in two opposite zones of the end portion (43) for facilitating a grip on the body (40) of the regulating means (4).
7. The dispenser according to any of the foregoing claims, **characterised in that** the lateral containment means (21) comprise contact means (25) which, at least when the regulating means (4) are in the first and second configurations, are in contact with the body (40), preventing any further movement of the body (40) towards the lower base (20) of the tray (2).
8. The dispenser according to any of the foregoing claims, **characterised in that** the body (40) comprises a first and a second graduated scale (6, 60) for measuring the volume of detergent present in the tray (2), the first and second graduated scales (6, 60) being located respectively at the first panel and the second panel (41, 42).
9. The dispenser according to any of the claims, **characterised in that** the regulating means (4) in the first configuration are rotated through 180° relative to the second configuration.
10. A washing machine comprising:
 - a washing compartment (13);
 - a dispenser (1) according to any of the claims from 1 to 9;
 - a drawer (11) for inserting the detergent, the drawer (11) comprising a housing in communication with the washing compartment (13), the housing being designed to receive the dispenser (1) in a removable fashion.

Patentansprüche

1. Abgabevorrichtung für Flüssigwaschmittel für eine Waschmaschine, umfassend:

- einen Einsatz (2) zum Aufnehmen des Flüssigwaschmittels und umfassend eine untere Basis (20) und laterale Aufnahmemittel (21), welcher dazu eingerichtet ist, das Waschmittel zu erhalten;
 - einen Siphon (3), welcher sich wenigstens teilweise von der unteren Basis (20) des Einsatzes (2) erstreckt, um die Abgabe wenigstens einen Teils des in dem Einsatz (2) platzierten Flüssigwaschmittels zu erlauben, wobei die lateralen Aufnahmemittel (21) eine Öffnung (22) zum Erlauben einer zusätzlichen Abgabe des Flüssigwaschmittels umfassen;
 - Mittel (4) zum Regulieren des Strömens von Flüssigwaschmittel durch die Öffnung (22), wobei die Regulierungsmittel in der Lage sind, sich zwischen einer ersten und einer zweiten Konfiguration zu bewegen;

dadurch gekennzeichnet, dass die Regulierungsmittel (4) einen Körper (40) umfassen, welcher wiederum eine erste Platte und eine zweite Platte (41, 42) umfasst, wobei die erste Platte und die zweite Platte die Öffnung (22) jeweils in der ersten und zweiten Konfiguration der Regulierungsmittel (4) versperren; wobei die erste Platte (41), wenn die Regulierungsmittel (4) in der ersten Konfiguration sind, die Öffnung (22) mehr versperrt als die zweite Platte (42), wenn die Regulierungsmittel (4) in der zweiten Konfiguration sind.

2. Abgabevorrichtung nach Anspruch 1, **dadurch gekennzeichnet, dass** die erste und zweite Platte (41, 42) unbeweglich mit wenigstens einem Abschnitt des Siphons (3) verbunden sind.

3. Abgabevorrichtung nach Anspruch 1 oder 2, **dadurch gekennzeichnet, dass** der Siphon (3) eine innere Wand (51) und eine äußere Wand (52) umfasst, zwischen welchen eine erste Strecke eines Kanals (53) zum Abgeben des Flüssigwaschmittels von dem Einsatz (2) eingefügt ist, wobei die äußere Wand (52) unbeweglich mit der ersten und der zweiten Platte (41, 42) verbunden ist.

4. Abgabevorrichtung nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** die Öffnung (22) von einem unteren Rand (23) und zwei Rändern (24a, 24b) begrenzt ist, welche sich weg von dem unteren Rand (23) erstrecken; wobei die erste Platte (41) einen ersten Rand (410) umfasst, welcher, wenn die Regulierungsmittel (4) in der ersten Konfiguration sind, an dem unteren Rand

(23) ist, wobei die zweite Platte (42) einen zweiten Rand (420) umfasst, welcher, wenn die Regulierungsmittel (4) in der zweiten Konfiguration sind, an dem unteren Rand (23) ist; wobei, wenn die Regulierungsmittel (4) in der ersten Konfiguration sind, der minimale Abstand zwischen dem ersten Rand (410) und dem unteren Rand (23) kleiner ist als der Abstand zwischen dem zweiten Rand (420) und dem unteren Rand (23).

5. Abgabevorrichtung nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** die Regulierungsmittel (4) einen Endabschnitt (43) umfassen, von welchem weg sich die erste und zweite Platte (41, 42) erstrecken; wobei, wenn die Regulierungsmittel (4) in der ersten und zweiten Konfiguration sind, die erste oder zweite Platte (41, 42) sich von dem Endabschnitt (43) in Richtung der Basis (20) des Einsatzes (2) erstrecken.

6. Abgabevorrichtung nach Anspruch 5, **dadurch gekennzeichnet, dass** der Endabschnitt (43) zwei Hohlräume (431, 432) umfasst, welche sich in zwei gegenüberliegende Zonen des Endabschnitts (43) erstrecken, um ein Greifen an dem Körper (40) der Regulierungsmittel (4) zu erleichtern.

7. Abgabevorrichtung nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** die lateralen Aufnahmemittel (21) Kontaktmittel (25) umfassen, welche wenigstens wenn die Regulierungsmittel (4) in der ersten und der zweiten Konfiguration sind, in Kontakt mit dem Körper (40) stehen, wobei jede weitere Bewegung des Körpers (40) in Richtung der unteren Basis (20) des Einsatzes (2) verhindert wird.

8. Abgabevorrichtung nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** der Körper (40) eine erste und eine zweite abgestufte Skala (6, 60) zum Messen des Volumens des in dem Einsatz (2) vorhandenen Waschmittels umfasst, wobei die erste und zweite abgestufte Skala (6, 60) jeweils an der ersten Platte und der zweiten Platte (41, 42) positioniert sind.

9. Abgabevorrichtung nach einem beliebigen der Ansprüche, **dadurch gekennzeichnet, dass** die Regulierungsmittel (4) in der ersten Konfiguration um 180° bezüglich der zweiten Konfiguration gedreht sind.

10. Waschmaschine, umfassend:

- einen Waschbehälter (13);
 - eine Abgabevorrichtung (1) nach einem der Ansprüche 1 bis 9;
 - eine Schublade (11) zum Einfüllen des Wasch-

mittels, wobei die Schublade (11) ein Gehäuse in Verbindung mit dem Waschbehälter (13) umfasst, wobei das Gehäuse dazu eingerichtet ist, die Abgabevorrichtung (1) auf eine herausnehmbare Weise aufzunehmen.

Revendications

1. Distributeur de détergent liquide destiné à une machine à laver comportant :

- un plateau (2) servant à contenir le détergent liquide et comprenant une base inférieure (20) et des moyens de confinement latéraux (21) conçus pour recevoir le détergent ;
- un siphon (3) s'étendant, au moins partiellement, à partir de la base inférieure (20) du plateau (2) afin de permettre le déversement d'au moins une partie du détergent liquide placé dans le plateau (2), les moyens de confinement latéraux (21) comprenant une ouverture (22) pour permettre un déversement supplémentaire du détergent liquide ;
- des moyens (4) pour réguler l'écoulement du détergent liquide à travers l'ouverture (22), les moyens de régulation aptes à se déplacer entre une première et une seconde configuration ;

caractérisé en ce que les moyens de régulation (4) comprennent un corps (40) qui, à son tour, comprend un premier panneau et un second panneau (41, 42), le premier panneau et le second panneau obstruant respectivement l'ouverture (22) dans les première et seconde configurations des moyens de régulation (4) ; le premier panneau (41), lorsque les moyens de régulation (4) se trouvent dans la première configuration, obstruant l'ouverture (22) plus que le second panneau (42) lorsque les moyens de régulation (4) se trouvent dans la seconde configuration.

2. Distributeur selon la revendication 1, **caractérisé en ce que** les premier et second panneaux (41, 42) sont, de façon inamovible, raccordés à au moins une partie du siphon (3).
3. Distributeur selon la revendication 1 ou 2, **caractérisé en ce que** le siphon (3) comprend une paroi intérieure (51) et une paroi extérieure (52) entre lesquelles une première section d'un canal (53) est interposée pour déverser le détergent liquide à partir du plateau (2), la paroi extérieure (52) étant raccordée de façon inamovible aux premier et second panneaux (41, 42).
4. Distributeur selon l'une quelconque des revendications précédentes, **caractérisé en ce que** l'ouverture (22) est délimitée par un bord inférieur (23) et

par deux bords latéraux (24a, 24b) qui s'étendent à distance du bord inférieur (23) ; le premier panneau (41) comprenant un premier bord (410) qui, lorsque les moyens de régulation (4) se trouvent dans la première configuration, est au niveau du bord inférieur (23), le second panneau (42) comprenant un second bord (420) qui, lorsque les moyens de régulation (4) se trouvent dans la seconde configuration, est au niveau du bord inférieur (23) ; lorsque les moyens de régulation (4) se trouvent dans la première configuration, la distance minimale entre le premier bord (410) et le bord inférieur (23) étant plus petite que la distance entre le second bord (420) et le bord inférieur (23).

5. Distributeur selon l'une quelconque des revendications précédentes, **caractérisé en ce que** les moyens de régulation (4) comprennent une partie d'extrémité (43) à distance de laquelle s'étendent les premier et second panneaux (41, 42) ; lorsque les moyens de régulation (4) se trouvent dans les première et seconde configurations, le premier ou le second panneau (41, 42) s'étend depuis la partie d'extrémité (43) vers la base (20) du plateau (2).
6. Distributeur selon la revendication 5, **caractérisé en ce que** la partie d'extrémité (43) comprend deux parties en creux (431, 432) s'étendant dans deux zones opposées de la partie d'extrémité (43) pour faciliter un moyen de prise sur le corps (40) des moyens de régulations (4).
7. Distributeur selon l'une quelconque des revendications précédentes, **caractérisé en ce que** les moyens de confinement latéraux (21) comprennent des moyens de contact (25) qui, au moins lorsque les moyens de régulation (4) se trouvent dans les première et seconde configurations, sont en contact avec le corps (40), empêchant un quelconque déplacement supplémentaire du corps (40) vers la base inférieure (20) du plateau (2).
8. Distributeur selon l'une quelconque des revendications précédentes, **caractérisé en ce que** le corps (40) comprend une première et une seconde échelle graduée (6, 60) pour mesurer le volume de détergent présent dans le plateau (2), les première et seconde échelles graduées (6, 60) étant situées, respectivement, au niveau du premier panneau et du second panneau (41, 42).
9. Distributeur selon l'une quelconque des revendications précédentes, **caractérisé en ce que** les moyens de régulation (4), dans la première configuration, présentent une rotation de 180° par rapport à la seconde configuration.
10. Machine à laver comportant :

- un compartiment de lavage (13) ;
- un distributeur (1) selon l'une quelconque des revendications 1 à 9 ;
- un tiroir (11) permettant d'insérer le détergent, le tiroir (11) comprenant un logement en communication avec le compartiment de lavage (13), le logement étant conçu pour recevoir le distributeur (1) d'une façon amovible.

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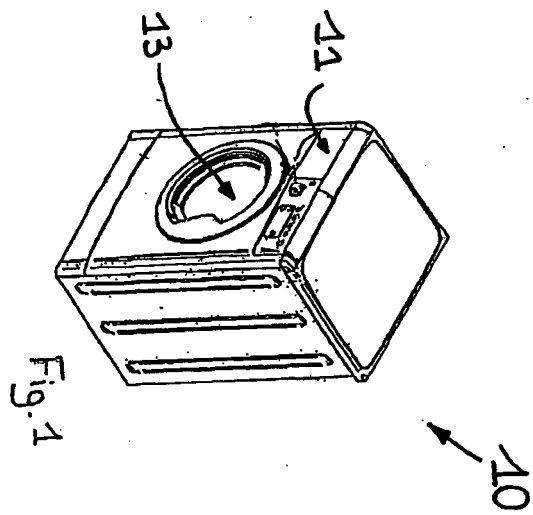
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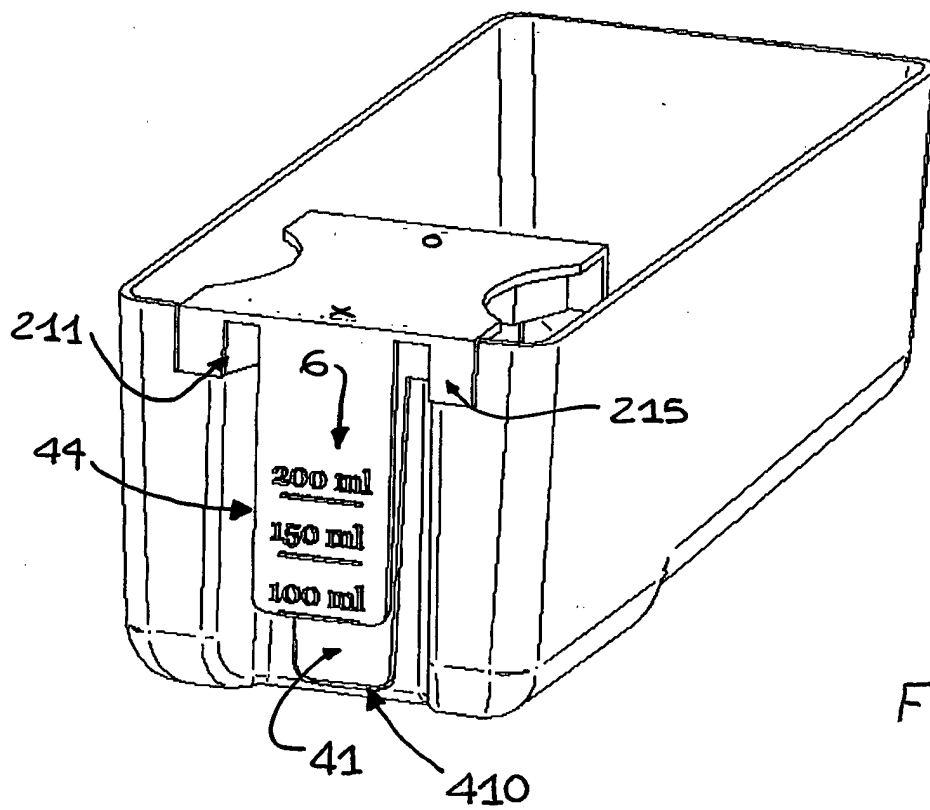
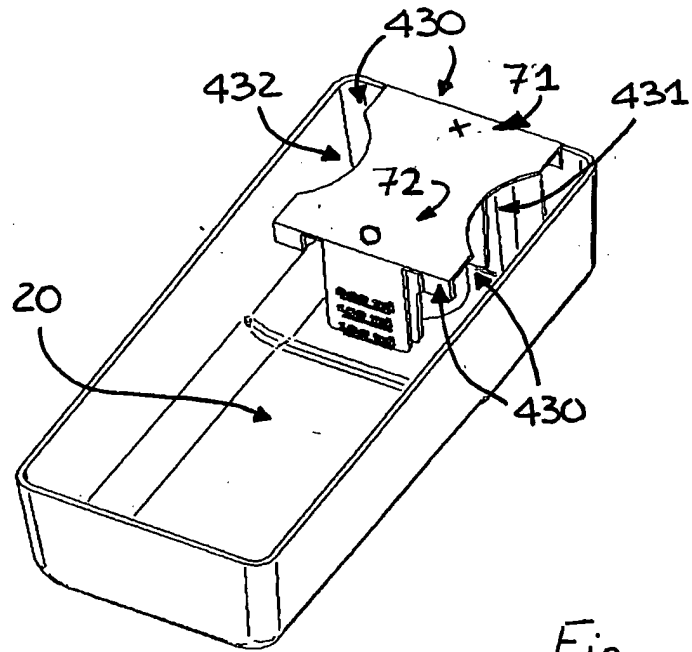
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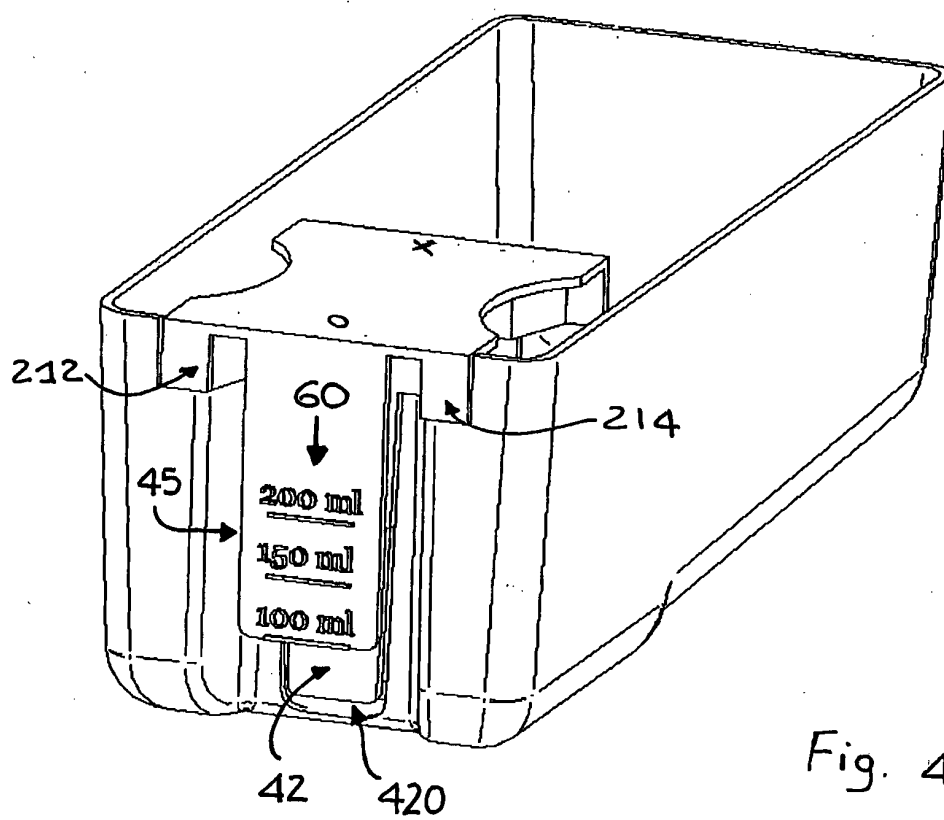
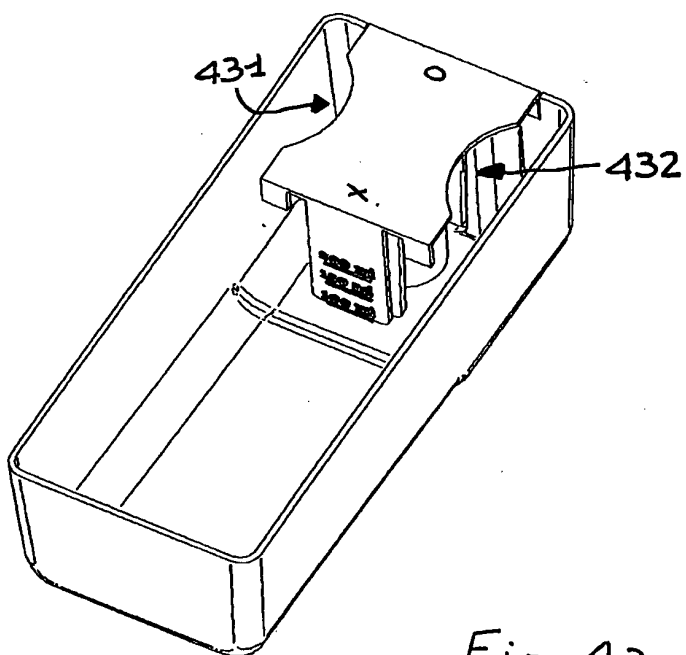
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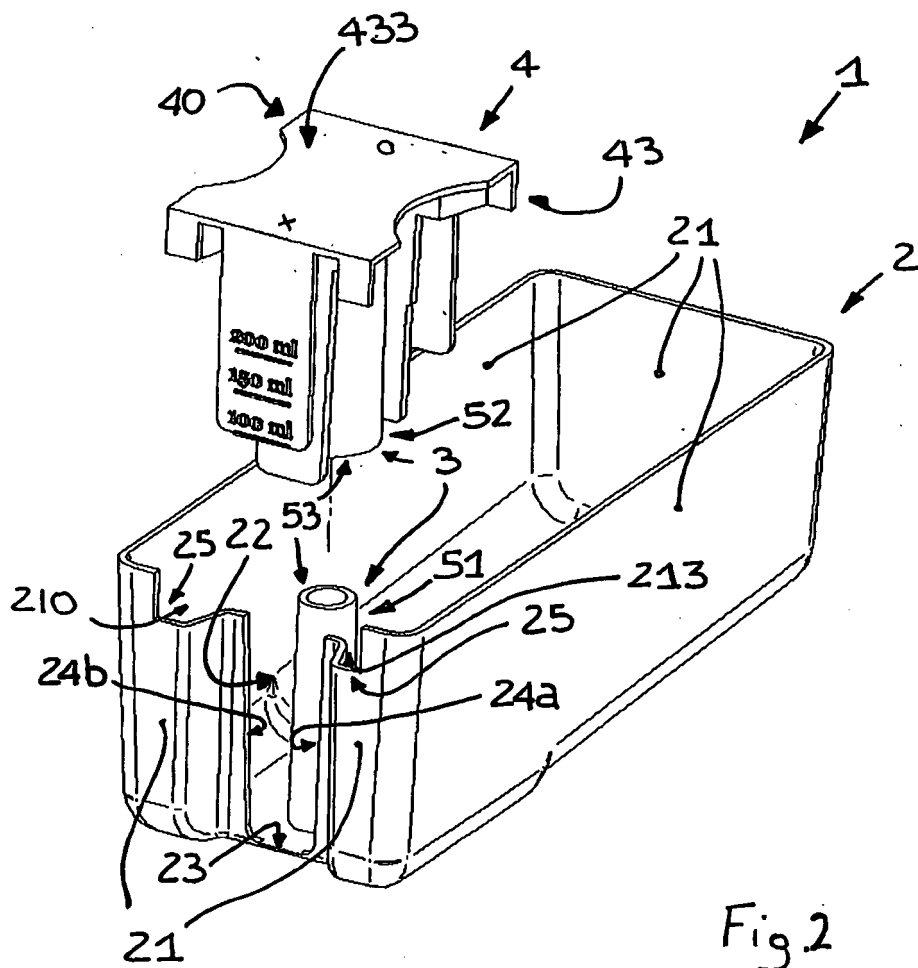


Fig. 2

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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