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(54) **A LAUNDRY WASHER AND/OR DRYER WITH FACILITATED INSTALLATION**

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Description

[0001] The present invention relates to a laundry washer and/or dryer with facilitated installation.

[0002] In installation stage of laundry washer and/or dryers, balanced placement of a machine on the ground is of utmost importance. The forces transmitted from the feet of an unbalanced laundry washer and/or dryer to the ground generates noise. In addition, when a laundry washer and/or dryer is not installed in a balanced manner on the ground, load is unstably distributed in the laundry washer and/or dryer, which adversely affects its performance. When installing such machines, service personnel keep spirit levels available to be able to perform an installation which is balanced with respect to the horizontal ground. However, inappropriate placement of a laundry washer and/or dryer may be experienced due to service personnel positioning a spirit level incorrectly on the laundry washer and/or dryer. Furthermore, with current living conditions, customers may wish to install their laundry washer and/or dryer themselves in their residences. It has become a necessity to install a laundry washer and/or dryer easily and in a balanced manner on the ground.

[0003] State of the art patent application no. TR201104577 (A2) describes a spirit level provided on the detergent drawer of a washing machine. This application discloses a spirit level disposed on the rear upper surface of the drawer, which is visible in the position in which the drawer extends out of the washing machine body and installation of the washing machine is performed by observing the spirit level. In cases when the drawer is not extracted outwards in parallel to the ground from the washing machine body, the spirit level fails to correctly display the inclination of the washing machine with respect to the ground on which it is placed. Failing to realize a correct and balanced installation in this state is the most significant disadvantage of this application.

[0004] The aim of the present invention is to realize a laundry washer and/or dryer placed correctly and in a balanced manner.

[0005] The laundry washer and/or dryer realized to achieve the aim of the present invention and disclosed in the first claim and the dependent claims, comprises a body, a cavity extending into the body from a front panel constituting the front surface of the body, and a drawer placed in the cavity, having a closed position in which it rests almost completely inside the cavity and an open position in which it extends outwards from the cavity. The laundry washer and/or dryer may be a washing machine, a dryer or a washer-dryer.

[0006] The laundry washer and/or dryer further comprises a spirit level provided on the cavity wall surrounding the volume in which the drawer is arranged in the closed position of the drawer. The spirit level enables balanced installation of the laundry washer and/or dryer by displaying its position in horizontal and vertical axes with respect to the ground. A person installing by means of the spirit level disposed in the cavity, can easily perform

installation by aligning the laundry washer and/or dryer in horizontal and vertical axes by adjusting the angle of the body with respect to the ground, in other terms by adjusting the forwards-backwards and sideways inclination of the body. Since the spirit level is disposed on the cavity, it does not affect the external appearance of the laundry washer and/or dryer. In addition, the position of the spirit level on the seat does not change by movement of the drawer. The spirit level is placed in the cavity so as to be parallel to the body of the laundry washer and/or dryer in any case. This embodiment enables avoiding unbalanced installations likely to occur due to incorrect placement of an external spirit level on the laundry washer and/or dryer during installation.

[0007] In an embodiment of the invention, the spirit level is disposed on the front portion of the cavity. The spirit level disposed right behind the lip of the cavity facilitates installation due to being located at a place which can be conveniently observed during installation of the laundry washer and/or dryer on the ground.

[0008] In an embodiment of the invention, the spirit level is placed on the lower side of the cavity so as to rest below the drawer in the open position of the drawer. When the drawer is in open position, the spirit level is not visible when the laundry washer and/or dryer is viewed from above and the spirit level can thus be concealed in the open position of the drawer as well. In other terms, the spirit level is concealed by the drawer in daily use of the laundry washer and/or dryer. A user can access the spirit level when desired by removing the drawer from the cavity.

[0009] In another embodiment of the invention, the laundry washer and/or dryer comprises attachment means provided on the cavity and/or the spirit level, enabling the spirit level to be detachably fastened on the cavity. The attachment means may be provided on both the cavity and the spirit level, as well as only on the cavity or only on the spirit level. If desired, a user can remove the spirit level from the cavity. This enables using the spirit level provided on the laundry washer and/or dryer, on other appliances.

[0010] In another embodiment of the invention, the laundry washer and/or dryer comprises an attachment means with an engagement structure for detachably attaching the spirit level in the cavity. By this, the spirit level can remain stationary on the cavity despite the vibrational forces it will be subjected to on the laundry washer and/or dryer.

[0011] The invention enables averting the noise and adversely effected operational performance likely to occur due to unbalanced installation of the laundry washer and/or dryer.

[0012] The laundry washer and/or dryer realized to achieve the aims of the present invention is illustrated in the accompanying drawings, wherein:

Figure 1 is a perspective view of a laundry washer and/or dryer of an embodiment of the invention.

Figure 2 is an enlarged view of the detail A of Figure 1.

Figure 3 is a partial sectional view of a laundry washer and/or dryer of an embodiment of the invention.

Figure 4 is a perspective view of the spirit level of another embodiment of the invention.

[0013] The elements in the figures are numbered individually and the correspondence of these numbers are given hereinafter.

1. Laundry washer and/or dryer
2. Front panel
3. Body
4. Cavity
5. Wall
6. Drawer
7. Spirit level
8. Attachment means
9. Tab
10. Retainer

[0014] The laundry washer and/or dryer (1) comprises a body (3) having a front panel (2), a cavity (4) provided on the front panel (2), shaped as a recess extending from the front panel (2) into the body (3), having at least one wall (5) surrounding the volume therein, and a drawer (6) placed in the cavity (4), having a closed position in which it rests almost completely in the cavity (4) and an open position in which it extends outwards from the cavity (4).

[0015] The laundry washer and/or dryer (1) of the invention further comprises a spirit level (7) provided on the cavity (4), enabling determining the inclination of the laundry washer and/or dryer (1) with respect to the ground on which it is placed. The spirit level (7) may be an instrument comprising a chamber full of liquid with an air bubble left therein, determining levelness of the planes and axes according to the position of the air bubble inside the chamber, or may be one of the structures capable of measuring the inclination of planes and axes by means of electronic circuits housed therein. The spirit level (7) is concealed in the cavity (4) since it is disposed inside the cavity (4). Thus, it does not disrupt aesthetic integrity of the external appearance of the laundry washer and/or dryer (1). Placement of the spirit level (7) on the cavity (4) enables maintaining the position of the spirit level (7) fixed without being affected from the drawer's (6) movement in the cavity (4). When desired, a user can access the spirit level (7) by removing the drawer (6) from the cavity (4) and can easily perform installation by utilizing the spirit level (7).

[0016] In an embodiment of the invention, the laundry washer and/or dryer (1) comprises a spirit level (7) disposed on the front portion of the cavity (4) so as to rest right behind the front panel (2). The spirit level (7) is placed proximate to the front panel (2) having the door enabling access into the body (3). By this, the spirit level (7) can easily be seen by removal of the drawer (6) during

installation of the laundry washer and/or dryer (1).

[0017] In an embodiment of the invention, the laundry washer and/or dryer (1) comprises a spirit level (7) placed on the wall (5) so as to remain below the drawer (6). The spirit level (7) is disposed on a wall (5) below the drawer (6) when the drawer (6) is arranged inside the cavity (4). By means of this embodiment, the spirit level (7) is not visible when the drawer (6) is viewed from above in the open position of the drawer (6). The spirit level (7) is thus enabled not to be seen by a user in daily use of the laundry washer and/or dryer (1).

[0018] In an embodiment of the invention, the laundry washer and/or dryer (1) comprises attachment means (8) provided on the cavity (4) and/or the spirit level (7), enabling the spirit level (7) to be detachably attached on the cavity (4). The spirit level (7) is fastened in the cavity (4) by means of the attachment means (8). A user can remove the spirit level (7) from within the cavity (4) when desired since the spirit level (7) is detachably attached in the cavity (4) by means of the attachment means (8). The spirit level (7) is thus prevented from occupying additional space in the body (3) when not utilized. In addition, this embodiment enables re-attaching or replacing the spirit level (7) when needed.

[0019] In an embodiment of the invention, the laundry washer and/or dryer (1) comprises attachment means (8) having a tab (9) provided on the spirit level (7) and a retainer (10) provided on the cavity (4), into which the tab (9) engages. The tab (9) is provided on the spirit level (7). The retainer (10) provided on the cavity (4) engages on the tab (9) by flexing when the spirit level (7) is being placed on the cavity (4). This enables facilitating attachment and detachment of the spirit level (7) to and from the cavity (4).

[0020] The invention facilitates horizontally balanced installation of laundry washer and/or dryers (1) on ground.

40 Claims

1. A laundry washer and/or dryer (1) **comprising** a body (3) having a front panel (2), a cavity (4) provided on the front panel (2), said cavity (4) being shaped as a recess extending from the front panel (2) into the body (3), having at least one wall (5) surrounding the volume therein, and a drawer (6) is adapted to be placed in the cavity (4), having a closed position in which it rests almost completely in the cavity (4) and an open position in which it extends outwards from the cavity (4), **characterized by** a spirit level (7) is provided on the wall (5), enabling determining its inclination with respect to the ground on which it is placed.
2. A laundry washer and/or dryer (1) according to claim 1, **characterized by** the spirit level (7) being disposed on the front portion of the cavity (4) so as to

rest right behind the front panel (2).

3. A laundry washer and/or dryer (1) according to claim 1 or claim 2, **characterized by** the spirit level (7) being placed on the wall (5) so as to remain below the drawer (6).
4. A laundry washer and/or dryer (1) according to any one of the preceding claims, **characterized by** an attachment means (8) provided on the cavity (4) and/or the spirit level (7), enabling the spirit level (7) to be detachably attached on the cavity (4).
5. A laundry washer and/or dryer (1) according to claim 4, **characterized by** the attachment means (8) having a tab (9) provided on the spirit level (7) and a retainer (10) provided on the cavity (4), into which the tab (9) engages.

Patentansprüche

1. Eine Waschmaschine und/oder Wäschetrockner (1) umfasst einen Körper (3) mit einer Frontplatte (2), einem Hohlraum (4), der auf der Frontplatte (2) vorgesehen ist, wobei der Hohlraum (4) als Aussparung geformt ist, die sich von der Frontplatte (2) in den Körper (3) erstreckt und mindestens eine Wand (5) aufweist, die das Volumen darin umgibt, und eine Schublade (6), die in den Hohlraum (4) einsetzbar ist und eine geschlossene Stellung aufweist, in der sie nahezu vollständig im Hohlraum (4) ruht, und eine offene Position, in der es sich aus dem Hohlraum (4) nach außen erstreckt, gekennzeichnet ist es dadurch, dass an der Wand (5) eine Wasserwaage (7) angebracht ist, die es ermöglicht, deren Neigung gegenüber dem Boden, auf dem sie aufgestellt ist, zu bestimmen.
2. Eine Waschmaschine und/oder Wäschetrockner (1), wie in Anspruch 1 aufgeführt, **ist dadurch gekennzeichnet, dass** die Wasserwaage (7) im vorderen Teil des Hohlraums (4) so angeordnet ist, dass sie direkt hinter der Frontplatte (2) ruht.
3. Eine Waschmaschine und/oder Wäschetrockner (1), wie in Anspruch 1 oder 2 aufgeführt, **ist dadurch gekennzeichnet, dass** die Wasserwaage (7) an der Wand (5) so angebracht ist, dass sie unterhalb der Schublade (6) bleibt.
4. Eine Waschmaschine und/oder Wäschetrockner (1), wie in einem der vorherigen Ansprüche aufgeführt, **ist dadurch gekennzeichnet, dass** am Hohlraum (4) und/oder der Wasserwaage (7) ein Befestigungsmittel (8) vorgesehen ist, das eine lösbare Befestigung der Wasserwaage (7) am Hohlraum (4) ermöglicht.

5. Eine Waschmaschine und/oder Wäschetrockner (1), wie in Anspruch 4 aufgeführt, **ist dadurch gekennzeichnet, dass** das Befestigungsmittel (8) eine an der Wasserwaage (7) vorgesehene Lasche (9) und eine am Hohlraum (4) vorgesehene Halterung (10) aufweist, in die die Lasche (9) eingreift.

Revendications

1. Un lave-linge et/ou un sèche-linge (1) **comprenant** un corps (3) avec un panneau avant (2), une cavité (4) prévue sur le panneau avant (2), ladite cavité (4) ayant la forme d'un renforcement s'étendant du panneau avant (2) dans le corps (3), ayant au moins une paroi (5) entourant le volume qu'elle contient, et un tiroir (6) est adapté pour être placé dans la cavité (4), ayant une position fermée dans laquelle il repose presque complètement dans la cavité (4) et une position ouverte dans laquelle il s'étend vers l'extérieur de la cavité (4), **caractérisé par le fait qu'**un niveau à bulle (7) est prévu sur la paroi (5), permettant de déterminer son inclinaison par rapport au sol sur lequel il est placé.
2. Un lave-linge et/ou sèche-linge (1) selon la déclaration 1, **caractérisé par le fait que** le niveau à bulle (7) est disposé sur la partie avant de la cavité (4) de manière à reposer juste derrière le panneau avant (2).
3. Un lave-linge et/ou sèche-linge (1) selon la déclaration 1 ou la déclaration 2, **caractérisé par le fait que** le niveau à bulle (7) est placé sur la paroi (5) de manière à rester en dessous du tiroir (6).
4. Un lave-linge et/ou sèche-linge (1) selon l'une quelconque des déclarations précédentes, **caractérisé par** un moyen de fixation (8) prévu sur la cavité (4) et/ou le niveau à bulle (7), permettant de fixer de manière amovible le niveau à bulle (7) sur la cavité (4).
5. Un lave-linge et/ou sèche-linge (1) selon la déclaration 4, **caractérisé par le fait que** le moyen de fixation (8) comporte une languette (9) prévue sur le niveau à bulle (7) et un dispositif de retenue (10) prévu sur la cavité (4), dans lequel s'engage la languette (9).

Figure 1

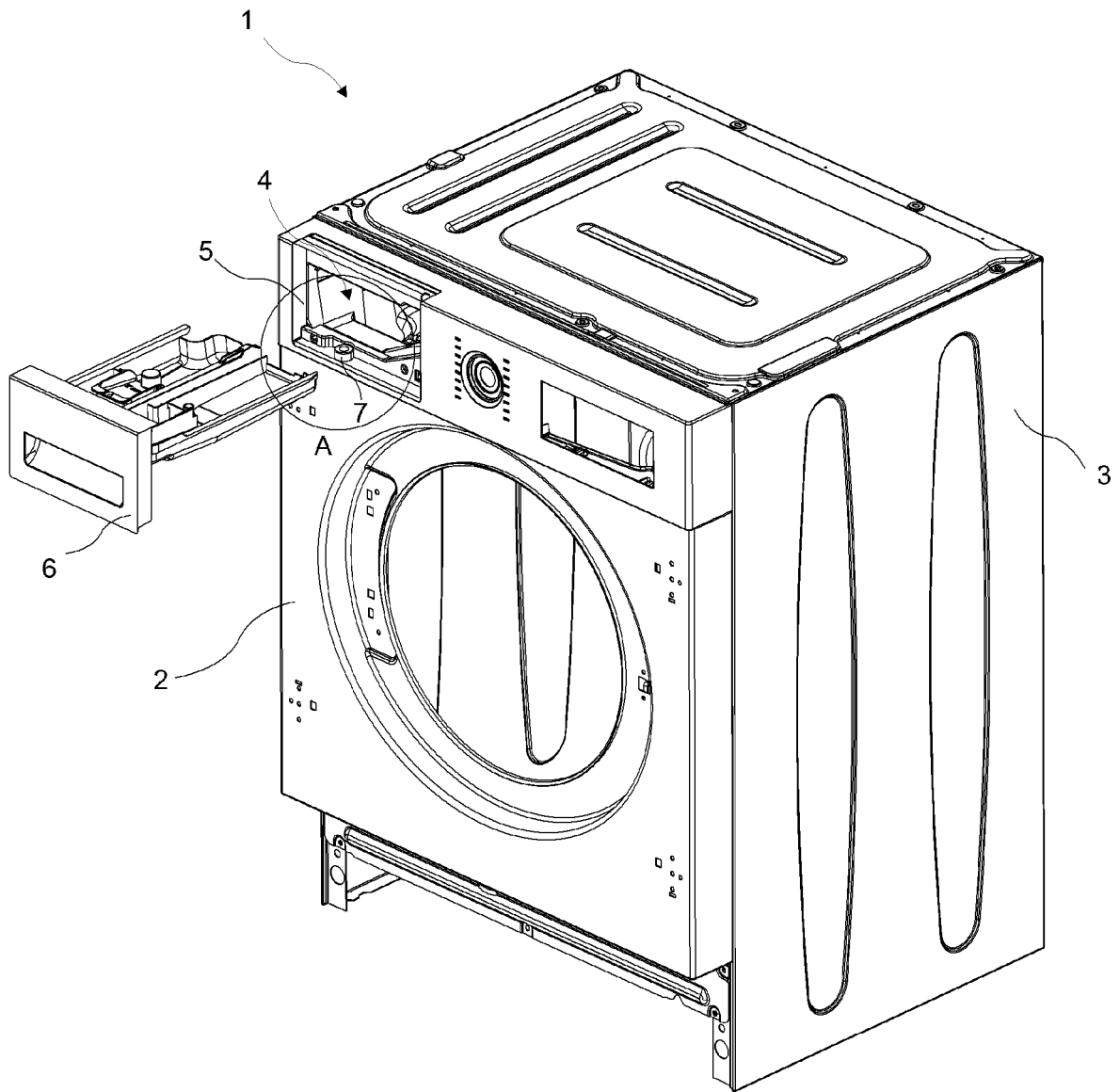


Figure 2

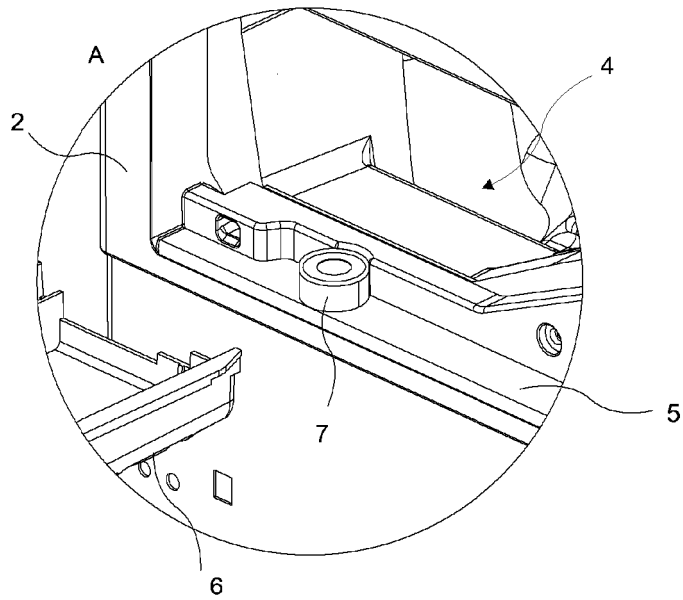


Figure 3

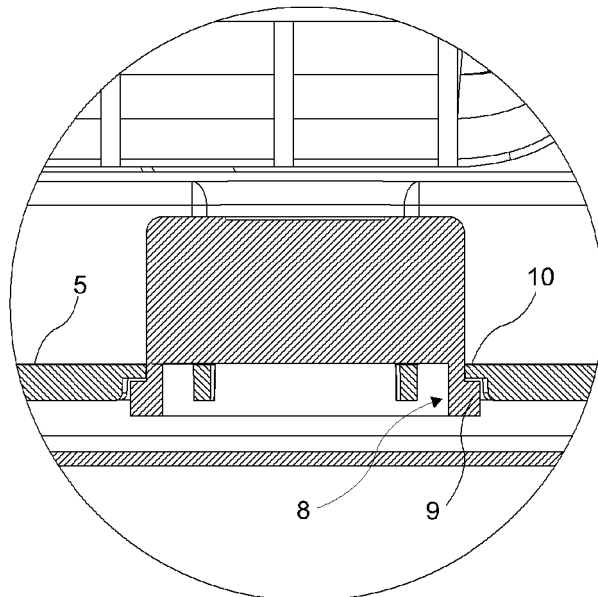
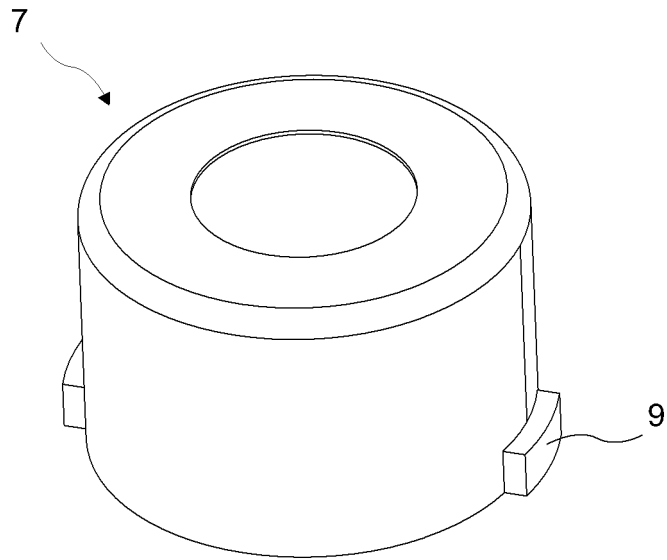


Figure 4



REFERENCES CITED IN THE DESCRIPTION

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