



(11)

EP 4 579 029 A1

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:
02.07.2025 Bulletin 2025/27

(51) International Patent Classification (IPC):
D06F 39/02 ^(2006.01) **D06F 39/00** ^(2024.01)

(21) Application number: **24215084.5**

(52) Cooperative Patent Classification (CPC):
D06F 39/02; D06F 39/007

(22) Date of filing: **25.11.2024**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA
Designated Validation States:
GE KH MA MD TN

(71) Applicant: **Arçelik Anonim Sirketi**
34445 Istanbul (TR)

(72) Inventors:
• **POLAT, MURATHAN EREN**
34445 ISTANBUL (TR)
• **TAKIT, ARDA**
34445 ISTANBUL (TR)

(30) Priority: **28.12.2023 TR 202319048**

(54) **A WASHING MACHINE COMPRISING A TANK**

(57) The present invention relates to a washing machine (1) comprising a body (2); a tub (3) which is disposed in the body (2) and wherein the washing process is performed; at least one opening (10) which is arranged on the body (2); a housing (11) which extends from the opening (10) towards the interior of the body (2); a dispenser (12) which is placed into the housing (11), which is suitable to be moved in a forward direction (F) and in a backward direction (B) in a horizontal plane in the housing (11) and which is moved in the forward direction (F) when in a closed position wherein the dispenser (12) remains in the housing (12) to be brought to an open

position wherein the dispenser (12) extends at least partially outside the housing (11) and which is moved in the backward direction (B) when in the open position to be brought to the closed position wherein the dispenser (12) again remains in the housing (11); at least one compartment (13) which is provided on the dispenser (12) and which is suitable for loading an agent therein; at least one tank (6) which is disposed in the body (2) and which is suitable for storing an agent therein; and at least one orifice (7) which is arranged on the housing (11) so as to be under the dispenser (12) and which enables the agent to be received into the tank (6).

EP 4 579 029 A1

Description

[0001] The present invention relates to a washing machine comprising a tank suitable for storing at least one agent.

[0002] In washing machines, additional functions such as automatic dosing and water softening become increasingly common with the advancements in technology. Although the washing machines are equipped with various functions, the sizes thereof remain constant within certain standards, and even the demand for smaller-sized washing machines increases in line with the needs of users. However, various additional functions usually require a tank to be placed in the limited volume of the washing machine for storing various agents. Especially when the tank is filled with a material supplied by the user, for example, when the tank is used as a salt tank in a washing machine with a water softening function, or when the tank is used as a liquid detergent tank in a washing machine with an automatic dosing function, the tank orifice must be easily accessible by the user during the filling process and positioned so as to ensure ergonomic use. On the other hand, the washing machines already comprise a dispenser which is placed in a housing positioned on the upper side of the body in an ergonomic and easily accessible manner, which is suitable for users to load various agents such as detergent, softener, etc. Therefore, manufacturers have developed various solutions where the tank is disposed on the dispenser or the tank orifice is arranged in the vicinity of the housing. However, the said solutions significantly reduce the usable volume of the dispenser and/or require the size of the housing to be increased to enable the user to easily access the tank orifice, which prevents the limited volume of the washing machine from being used effectively.

[0003] In the state of the art European Patent Application No. EP2761077, a washing machine is disclosed, comprising a salt filling orifice which is arranged in the housing and which is accessible from the outside. The salt filling orifice can be accessed directly from the area left empty by completely removing the dispenser or by limiting the volume of a compartment on the dispenser. This structure is disadvantageous in terms of both placement and use, as it requires the dispenser to be completely removed for the filling process or the volume of the dispenser to be limited so as to provide access to the tank orifice without removing the dispenser.

[0004] The aim of the present invention is the realization of a washing machine comprises a tank which decreases the space allocated on the housing and the dispenser for the filling process while facilitating the filling process.

[0005] The washing machine realized in order to attain the aim of the present invention, explicated in the first claim and the respective claims thereof, is a laundry washing machine or a laundry drying machine, and comprises a body; a drum wherein the laundry is loaded; a tub wherein the drum is disposed; at least one tank which is

disposed in the body and which is suitable for filling at least one agent such as detergent, salt, bleach, etc.; a housing which has an opening which opens to the front face of the body and which extends into the body; a dispenser which is placed into the housing so as to be moved in a forward direction and in a backward direction opposite to the forward direction in a horizontal plane and which has a closed position wherein the dispenser remains in the housing and an open position to which the dispenser is brought by being moved forward when in the closed position and wherein the dispenser remains at least partially outside the housing; at least one compartment which is provided on the dispenser and which is suitable for loading an agent, especially detergent; an orifice through which the agent to be filled into the tank is received, which completely remains in the housing and which is positioned in the housing so as to be under the dispenser; and a passage which is provided on the dispenser, which is configured on the dispenser as completely separated from the compartment, and which has an inlet opening to the top of the dispenser, an outlet opening to the base of the dispenser so as to face the orifice when the dispenser is in the open position and a guiding part extending between the inlet and the outlet and forming a flow channel by means of the inlet and the outlet, one end of which opens to the top of the dispenser and the other end opening to the base of the dispenser. The passage enables the agent poured through the inlet to flow in the guiding part and reach the outlet and to be delivered to the orifice to be sent from the outlet to the tank. By means of the passage, the filling process is performed by means of the dispenser and thus, since direct access to the orifice is not required, the need for a change in the design of the housing to position the orifice on the housing in an easily accessible manner is eliminated. On the other hand, since the dispenser acts as an auxiliary component which facilitates the filling process, the dispenser is not required to be completely removed from the housing for the filling process and since only enough space is left on the dispenser to ensure the flow for the filling process, the remaining dispenser volume is effectively used for storing other agents.

[0006] In an embodiment of the present invention, the inlet and outlet are arranged at a distance from each other in the horizontal axis and the inlet is positioned closer to the front of the dispenser than the outlet such that the forward and backward flow of the agent in the guiding part is ensured. Since the inlet is positioned further forward than the outlet when the dispenser is in the open position, the filling process is enabled to be performed from a point closer to the front of the dispenser. Thus, the filling process is facilitated by providing sufficient distance between the body and the inlet when the dispenser is in the open position.

[0007] In another embodiment of the present invention, the washing machine comprises a tub line which opens to the housing by means of a tub inlet and to the tub from the other end, and the orifice is positioned in the housing so

as to be closer to the opening than the tub inlet. Thus, the orifice is moved away from the tub inlet and the distance between the orifice and the front of the dispenser is kept as short as possible when the dispenser is in the open position. Thus, the water flowing towards the tub inlet in the housing is prevented from reaching the orifice and the area covered by the passage on the dispenser is further reduced by reducing the length thereof in the horizontal axis.

[0008] In another embodiment of the present invention, the orifice is positioned at a higher level than the tub inlet with respect to the floor. Thus, the water flowing in the housing, especially the detergent-water mixture, is prevented from reaching the orifice and from the orifice to the tank.

[0009] In another embodiment of the present invention, on the housing, there is a skirt which surrounds the orifice and which has an elevated form towards the dispenser. The skirt functions as a barrier which prevents water access to the orifice from outside and which enables all the agent to reach the orifice by preventing the agent poured through the outlet from scattering into the housing when the dispenser is in the open position. In a preferred version of this embodiment, the skirt bears against the dispenser from below so as to surround the outlet when the dispenser is in the open position. Thus, the channel forms a completely closed channel between the outlet and the orifice, providing effective sealing.

[0010] In another embodiment of the present invention, the guiding part comprises at least one first wall which extends at an angle to the horizontal plane in the backward direction so as to be inclined from front to back and whereon the agent coming from the inlet is poured. The first wall prevents the agent taken through the inlet from accumulating after the inlet in the passage. This embodiment is particularly advantageous when the guiding part and the inlet are kept as narrow as possible to cover the minimum area on the dispenser, and prevents the accumulation of the agent in the passage after being poured quickly and enables the agent to be quickly removed from the inlet opening.

[0011] In another embodiment of the present invention, the guiding part comprises a second wall which extends perpendicular to the horizontal plane and which enables the agent flowing over the first wall to be directed to the outlet. The agent flowing over the first wall hits the second wall and changes direction to reach the outlet. Thus, the speed of the agent is enabled to be reduced before reaching the outlet so as to be poured into the orifice in an orderly manner.

[0012] In another embodiment of the present invention, the passage remains at least partially behind the compartment in the backward direction. When the dispenser is brought to the open position, the compartment leaves the housing before the passage. Thus, while the compartment is located at the most easily accessible front side of the dispenser, the passage used only for the filling process is positioned in a more rearward region of the

dispenser so as to be accessible when the dispenser is pulled out of the housing more when in the open position. Thus, the front side of the dispenser is enabled to be used more effectively.

[0013] In another embodiment of the present invention, the top of the inlet is opened and closed by means of a lid which is hinged to one side of the inlet. The lid closes the top of the inlet when the passage is not in use and prevents other agents such as detergent, bleach, etc., which are loaded into the compartment by the user but are not required to access the tank, from reaching the passage as a result of spillage or overflow. Thus, the safe use of the tank is ensured.

[0014] In another embodiment of the present invention, the lid is hinged to the front edge of the inlet and on the lid, there is at least one stopper which is integrated to the lid so as to move together with the lid and which enables the lid to be held in a position so as to extend in an inclined manner towards the inlet when open. When closed, the lid is flush with the top surface of the dispenser, and when opened, the stopper bears against the dispenser and enables the lid to be held at an angle according to the horizontal plane. The inner surface of the lid, which faces the passage from the inlet when the lid is closed, forms a surface inclined towards the opening when the lid is open. Thus, the lid acts as a guide which directs the agent to the passage during the filling process and facilitates the filling process. This embodiment is advantageous in terms of facilitating the filling process, in other words, pouring the agent into the inlet, thus keeping the inlet size smaller and reducing the area covered on the upper surface of the dispenser.

[0015] In another embodiment of the present invention, there are at least two fins which extend perpendicularly to the lid from the side edges perpendicular to the hinged edge of the lid. The fins extend from the inlet into the passage when the lid is closed, and extend outward from the side edges of the lid when the lid is open. Thus, all of the agent poured onto the lid is directed to the inlet and the agent is prevented from spilling from the edges of the lid.

[0016] In an embodiment of the present invention, there is a cut-out on the dispenser, there is a gripping part on the housing, which is opposite the cut-out when the dispenser is in the open position, and there is a claw on the stopper, which fits into the gripping part by passing through the cut-out when the lid is opened while the dispenser is in the open position. The claw and the gripping part ensure that the dispenser is held in the open position such that the outlet and the orifice are aligned with each other when the lid is opened, and ensure that the filling process is performed in a safe and easy manner.

[0017] In another embodiment of the present invention, the tank is positioned in the body so as to be at a distance from the housing, and the orifice and the tank are connected to each other by means of a delivery line. The agent poured into the orifice by means of the passage

passes through the delivery line and reaches the tank. The delivery line provides freedom for the placement of the orifice on the housing and the orifice can be positioned in any suitable position in the housing, independent of the position of the tank.

[0018] In another embodiment of the present invention, the tank is a salt tank wherein salt is stored to be used in a water softening process.

[0019] In another embodiment of the present invention, the tank is fixed to the base of the body. Thus, a high loading capacity is provided when a relatively heavy and large-volume agent, especially salt, is stored in the tank.

[0020] By means of the present invention, a washing machine is realized, comprising a dispenser having a passage which eliminates the need for direct access to the orifice by the user and which enables the orifice to be arranged in any suitable position on the base of the housing and also allows the filling process to be performed easily and ergonomically.

[0021] The washing machine realized in order to attain the aim of the present invention is illustrated in the attached figures, where:

Figure 1 - is the schematic view of the washing machine related to an embodiment of the present invention.

Figure 2 - is the view of the housing, the tank and the delivery line related to another embodiment of the present invention.

Figure 3 - is the perspective view of the dispenser related to another embodiment of the present invention.

Figure 4 - is the cross-sectional view of the housing and the dispenser related to another embodiment of the present invention.

Figure 5 - is the view of the lid and the stopper related to another embodiment of the present invention.

Figure 6 - is the partial sideways cross-sectional view of the housing and the dispenser when the dispenser is in the closed position related to another embodiment of the present invention.

Figure 7 - is the partial sideways cross-sectional view of the housing and the dispenser when the dispenser is in the open position related to another embodiment of the present invention.

[0022] The elements illustrated in the figures are numbered as follows:

1. Washing machine

2. Body

3. Tub

4. Drum

5. Tub inlet

6. Tank

7. Orifice

8. Skirt

9. Delivery line

10. Opening

11. Housing

12. Dispenser

13. Compartment

14. Passage

15. Inlet

16. Outlet

17. Guiding part

18. First wall

19. Second wall

20. Lid

21. Hinge part

22. Fin

23. Claw

24. Stopper

25. Gripping part

26. Cut-out

F: Forward direction

B: Backward direction

[0023] The washing machine (1) comprises a body (2); a tub (3) which is disposed in the body (2) and wherein the washing process is performed; a housing (11) which is disposed on the body (2) and which opens to the outside of the body (2) by means of an opening (11); a dispenser (12) which is placed into the housing (11), which is

suitable to be moved in a forward direction (F) and in a backward direction (B) in a horizontal plane in the housing (11) and which is moved in the forward direction (F) when in a closed position wherein the dispenser (12) remains in the housing (12) to be brought to an open position wherein the dispenser (12) extends at least partially outside the housing (11) and which is moved in the backward direction (B) when in the open position to be brought to the closed position wherein the dispenser (12) again remains in the housing (11); at least one compartment (13) which is provided on the dispenser (12) and which is suitable for loading an agent therein; at least one tank (6) which is disposed in the body (2) and which is suitable for storing an agent therein; and at least one orifice (7) which is arranged on the housing (11) so as to be under the dispenser (12) and which enables the agent to be received into the tank (6). The housing (11) has an opening (10) which is arranged on the vertical front wall of the body (2), and is in the form of a recess extending horizontally from the opening (10) to the inside of the body (2). When in the closed position, the dispenser (12) remains completely inside the housing (11) and is pulled in the forward direction (F) to be brought the open position wherein the dispenser (12) extends out of the housing (11). On the dispenser (12), there are one or more than one compartment (13) suitable for loading cleaning agents such as liquid detergent, powder detergent, softener, etc. and when the dispenser (12) is in the open position, the compartment (13) remains at least partially outside the housing (11) and thus becomes accessible by the user. After the agent is loaded into the compartment (11), the dispenser (12) is pushed in the backward direction (B) and brought to the closed position where the dispenser (12) remains completely inside the housing (11). The orifice (7) is arranged completely behind the opening (10) and remains under the dispenser (12). The orifice (7) is in communication with the tank (6) and enables an agent such as liquid detergent, salt, bleach, etc. to be taken to be sent to the tank (6).

[0024] The washing machine (1) of the present invention comprises a passage (14) which is provided on the dispenser (12) and which has an inlet (15) opening to the upper side of the dispenser (12), an outlet (16) opening to the lower side of the dispenser (12) and remaining opposite the orifice (7) when the dispenser (12) is in the open position, and a guiding part (17) with a closed cross-section in the horizontal plane and extending between the inlet (15) and the outlet (16). The inlet (15) is positioned on the upper side of the dispenser (12) facing the ceiling of the housing (11) when the dispenser (12) is in the closed position, and the outlet (16) is positioned on the lower side of the dispenser (12) facing the base of the housing (11) when the dispenser (12) is in the closed position. The passage (14) comprises a guiding part (17) which has the inlet (15) at one end and the outlet (16) at the other end and which connects the inlet (15) and the outlet (16) to each other. The guiding part (17) is in the

form of a hollow duct surrounding a space between the inlet (15) and the outlet (16) and has a closed cross-section in the horizontal plane. When in the closed position, the dispenser (12) is pulled in the forward direction (F) out of the opening (10) and brought to the open position where the dispenser (12) remains at least partially outside the housing (11), the outlet (16) is opposite the orifice (7). When the dispenser (12) is in the open position, the agent to be loaded into the tank (6) is poured into the inlet (15) at the top of the dispenser (12), the agent taken through the inlet (15) is directed towards the outlet (16) by means of the guiding part (17) in the passage (14) and is poured into the orifice (7) through the outlet (16) and delivered to the tank (6). The passage (14) functions as a guide which ensures the flow of the agent from the upper side of the dispenser (12) to the lower side of the dispenser (12) and directs the agent to the orifice (7) and enables the user to perform the filling process without having to directly access the orifice (7) arranged in the housing (11). Thus, the agent is loaded into the tank (6) without having to directly access the orifice (7) which is difficult to access directly through the opening (10) and which is located in the limited volume surrounded by the housing (11) such that the filling process can be easily performed.

[0025] In an embodiment of the present invention, the outlet (16) is positioned so as to remain behind the inlet (15) in the backward direction (B). When the dispenser (12) is in the open position, the inlet (15) and the outlet (16) are positioned at a distance from each other in the horizontal plane such that the inlet (15) is completely outside the housing (11) and the outlet (16) is completely inside the housing (11). The guiding part (17) directs the agent poured through the inlet (15) in the backward direction (B) towards the outlet (16). Thus, the orifice (7) can be arranged in the housing (11) at a distance from the opening (10) without requiring any design changes in the parts of the body (2) and the housing (11) which are visible from the outside.

[0026] In another embodiment of the present invention, a tub line having a tub inlet (5) arranged on the housing (11) extends between the housing (11) and the tub (3), and the orifice (7) is positioned on the housing (11) so as to be closer to the opening (10) than the tub inlet (5). The tub inlet (5) is connected to the tub (3) at one end and opens to the housing (11) by means of the tub inlet (5) and ensures that the agent poured into the housing (11) by being swept by water from the compartment (13) is delivered to the tub (3). The orifice (7) and the tub inlet (5) are positioned in the housing such that the tub inlet (5) is positioned after the orifice (7) in the backward direction (B). Thus, the agent-water mixture flowing into the housing (11) from the compartment (13) is prevented from reaching the orifice (7).

[0027] In another embodiment of the present invention, the orifice (7) is positioned higher on the housing (11) than the tub inlet (5) such that the distance between the orifice (7) and the dispenser (12) is less than the distance of the

tub inlet (5) to the dispenser (12). The tub inlet (5) is arranged at a lower position on the base of the housing (11) than the orifice (7). In this embodiment, preferably, there is a protuberance at the base of the housing (11) forming a protrusion towards the dispenser (12) and the orifice (7) is positioned on the protuberance. Thus, the vertical distance between the orifice (7) and the dispenser (12) is shortened and when the dispenser (12) is in the open position, the orifice (7) and the outlet (16) are brought closer to each other so as to prevent the agent poured through the outlet (16) from spilling into the housing (11).

[0028] In another embodiment of the present invention, on the housing (11), there is a skirt (8) which surrounds the orifice (7) and which forms a protrusion from the perimeter of the orifice (7) into the housing (11). The skirt (8) is in the form of a peripheral extension extending from the wall of the orifice (7) into the housing (11). When the dispenser (12) is in the open position, the skirt (8) bears against the dispenser (12) from below so as to surround the outlet (16). When the dispenser (12) is in the open position, the skirt (8) acts as a duct which completely surrounds the orifice (7) and the outlet (16) so as to enable both the orifice (7) and the outlet (16) to be isolated from the housing (11).

[0029] In another embodiment of the present invention, on the guiding part (17), there is at least one first wall (18) which is disposed after the inlet (15) and which extends at an angle to the horizontal plane in the backward direction (B) so as to be inclined from the front to the back of the dispenser (12). The first wall (18) extends at an angle of almost 45° to the horizontal axis in the backward direction (B) from the inlet (15). By means of the inclined form, the first wall (18) ensures the rapid flow of the agent coming through the inlet (15) so as to prevent the accumulation of the agent in front of the inlet (15) and to provide a continuous flow in the passage (14).

[0030] In another embodiment of the present invention, on the guiding part (17), there is at least one second wall (19) which is disposed before the outlet (16) and which extends perpendicular to the horizontal plane. The second wall (19) extends in the vertical direction towards the outlet (16). The second wall (19) forms a surface whereon the agent coming from the first wall (18) hits and reduces the flow rate of the agent such that the agent flows slowly and regularly from the outlet (16) to the orifice (7).

[0031] In another embodiment of the present invention, the compartment (13) remains at least partially in front of the passage (14) so as to be closer to the opening (10) when the dispenser (12) is in the closed position. The compartment (13) at least partially protrudes from the opening (10) before the passage (14) when the dispenser (12) is brought to the open position. In a preferred version of this embodiment, the passage (14) is configured in the compartment (13) so as to be completely isolated from the compartment (13). Since the passage (14) remains behind all or at least part of the compartment (13), the compartment (13) which is used more frequently than the

passage (14) is enabled to be positioned in the most accessible front part of the dispenser (12). Thus, the user does not open the dispenser (12) gradually, and when he/she brings the dispenser (12) to the open position so as to extend less from the housing (11), he/she provides access to the compartment (13), and he/she reaches the passage (14) by pulling the dispenser (12) in the forward direction (F) more for the filling process in the open position where the dispenser (12) extends more out of the housing (11). Thus, the passage (14) is enabled to be accessible only when the tank (6) filling process is required to be performed and to be hidden in the housing (11) during the frequent use when there is no need for filling, thus providing functional and simplified use.

[0032] In another embodiment of the present invention, the dispenser (12) comprises a lid (20) which is rotatably hinged on one side of the inlet (15) by means of a hinge part (21), which leaves the inlet (15) exposed when opened and which covers the inlet (15) when closed. The lid (20) covers the inlet (15) when closed and is lifted from over the inlet (15) by being rotated around the edge thereof connected to the dispenser (12) by means of the hinge part (21). By means of the lid (20), the entry of agent and water into the passage (14) when not in use is prevented, and it is ensured that the passage (14) always remains dry and clean such that when a water-soluble agent such as detergent, salt etc. is stored in the tank (6), the agent is prevented from getting wet before reaching the orifice (7) and from leaving residue in the passage (14).

[0033] In another embodiment of the present invention, the lid (20) is hinged from the side of the inlet (15) which is closest to the opening (10) when the dispenser (12) is in the closed position, and on the lid (20), there is at least one stopper (24) which enables the lid (20) to be held at an angle relative to the horizontal plane towards the inlet (15) when open. The stopper (24) is fixed to the lid (20) so as to move together with the lid (20), and when opened, the lid (20) bears against the dispenser (12) so as to enable the lid (20) to be held at an angle relative to the horizontal axis towards the inlet (16). Thus, during the filling process, the lid (20) serves as a guide which directs the agent towards the inlet (16). This embodiment is advantageous in terms of the lid (20) expanding the area where the agent is poured, especially when the inlet (16) is configured as small as possible.

[0034] In another embodiment of the present invention, on the opposite side edges of the lid (20), there are at least two fins (22) which are in the form of an extension extending outwards from the lid (20). The fins (22) extend upwards from the side edges of the lid (20) which are perpendicular to the hinge axis when the lid (20) is open. The fins (22) prevent the agent flowing over the lid (20) from spilling from the edges of the lid (20).

[0035] In another embodiment of the present invention, there is a cut-out (26) on the dispenser (12), and there is a claw (23) on the stopper (24), which passes through the cut-out (26) to extend towards the housing (11) via the

dispenser (12) when the lid (20) is opened, and there is a gripping part (25) on the housing (11) which is suitable for receiving the claw (23) therein. When the lid (20) is opened, the claw (23) which moves together with the lid (20) passes through the cut-out (26) and reaches the upper side of the dispenser (12). When the dispenser (12) is in the open position where the outlet (16) and the orifice (7) are aligned, the claw (23) fits into the gripping part (25) on the housing (11). When the dispenser (12) is pulled forward more or less, in other words, when the outlet (16) and the orifice (7) are not fully aligned with each other, the claw (23) is not fitted into the gripping part (25) and the lid (20) cannot be fully opened, thus preventing the filling process from being performed in an incorrect position. Thus, the position of the dispenser (12) is also maintained throughout the filling process and the dispenser (12) is prevented from being moved. When the lid (20) is closed after the filling process is completed, the claw (23) is separated from the gripping part (25) and the cut-out (26), respectively, so as to allow the movement of the dispenser (12).

[0036] In another embodiment of the present invention, a delivery line (9) extends between the orifice (7) and the tank (6). The tank (6) is positioned in the body (2), preferably at the base of the body (2), so as to remain completely outside the housing (11), and the delivery line (9) enables the agent taken through the orifice (7) to be delivered to the tank (6). Thus, the tank (6) is enabled to be placed without restricting the usable volume of the housing (11) and the dispenser (12).

[0037] In another embodiment of the present invention, the tank (6) is configured to be suitable for storing salt. The washing machine (1) has a water softening function, and the salt to be used in the water softening process is loaded into the tank (6).

[0038] By means of the present invention, a washing machine (1) is realized, comprising an ergonomic and easy-to-fill tank (6). By means of the passage (14) configured on the dispenser (12), the usable volume of the dispenser (12) is largely preserved and the need for direct access to the orifice (7) is eliminated. By means of the passage (14), freedom is also provided in the design of the housing (11) and the position of the orifice (7) in the housing (11), providing ease of production.

Claims

1. A washing machine (1) **comprising** a body (2); a tub (3) which is disposed in the body (2) and wherein the washing process is performed; a housing (11) which is disposed on the body (2) and which opens to the outside of the body (2) by means of an opening (11); a dispenser (12) which is placed into the housing (11), which is suitable to be moved in a forward direction (F) and in a backward direction (B) in a horizontal plane in the housing (11) and which is moved in the forward direction (F) when in a closed position wherein the dispenser (12) remains in the housing (12) to be brought to an open position wherein the dispenser (12) extends at least partially outside the housing (11) and which is moved in the backward direction (B) when in the open position to be brought to the closed position wherein the dispenser (12) again remains in the housing (11); at least one compartment (13) which is provided on the dispenser (12) and which is suitable for loading an agent therein; at least one tank (6) which is disposed in the body (2) and which is suitable for storing an agent therein; and at least one orifice (7) which is arranged on the housing (11) so as to be under the dispenser (12) and which enables the agent to be received into the tank (6), **characterized by** a passage (14) which is provided on the dispenser (12) and which has an inlet (15) opening to the upper side of the dispenser (12), an outlet (16) opening to the lower side of the dispenser (12) and remaining opposite the orifice (7) when the dispenser (12) is in the open position, and a guiding part (17) with a closed cross-section in the horizontal plane and extending between the inlet (15) and the outlet (16)..
2. A washing machine (1) as in Claim 1, **characterized by** the outlet (16) which is positioned so as to remain behind the inlet (15) in the backward direction (B).
3. A washing machine (1) as in Claim 1 or Claim 2, **characterized by** a tub line which has a tub inlet (5) arranged on the housing (11) and which extends between the housing (11) and the tub (3), and the orifice (7) which is positioned on the housing (11) so as to be closer to the opening (10) than the tub inlet (5).
4. A washing machine (1) as in Claim 3, **characterized by** the orifice (7) which is positioned higher on the housing (11) than the tub inlet (5) such that the distance between the orifice (7) and the dispenser (12) is less than the distance of the tub inlet (5) to the dispenser (12).
5. A washing machine (1) as in any one of the above claims, **characterized by** a skirt (8) which surrounds the orifice (7) and which forms a protrusion from the perimeter of the orifice (7) into the housing (11).
6. A washing machine (1) as in any one of the above claims, **characterized by** at least one first wall (18) which is disposed on the guiding part (17) after the inlet (15) and which extends at an angle to the horizontal plane in the backward direction (B) so as to be inclined from the front to the back of the dispenser (12).
7. A washing machine (1) as in Claim 6, **characterized by** at least one second wall (19) which is disposed on

the guiding part (17) before the outlet (16) and which extends perpendicular to the horizontal plane.

8. A washing machine (1) as in any one of the above claims, **characterized by** the compartment (13) which remains at least partially in front of the passage (14) so as to be closer to the opening (10) when the dispenser (12) is in the closed position. 5

9. A washing machine (1) as in any one of the above claims, **characterized by** a lid (20) which is rotatably hinged on one side of the inlet (15) by means of a hinge part (21), which leaves the inlet (15) exposed when opened and which covers the inlet (15) when closed. 10
15

10. A washing machine (1) as in Claim 9, **characterized by** the lid (20) which is hinged from the side of the inlet (15) which is closest to the opening (10) when the dispenser (12) is in the closed position, and at least one stopper (24) which is disposed on the lid (20) and which enables the lid (20) to be held at an angle relative to the horizontal plane towards the inlet (15) when open. 20
25

11. A washing machine (1) as in Claim 10, **characterized by** at least two fins (22) which are provided on the opposite side edges of the lid (20) and which are in the form of an extension extending outwards from the lid (20). 30

12. A washing machine (1) as in Claim 10 or Claim 11, **characterized by** a cut-out (26) which is provided on the dispenser (12), a claw (23) which is provided on the stopper (24) and which passes through the cut-out (26) to extend towards the housing (11) via the dispenser (12) when the lid (20) is opened, and a gripping part (25) which is provided on the housing (11) and which is suitable for receiving the claw (23) therein. 35
40

13. A washing machine (1) as in any one of the above claims, **characterized by** a delivery line (9) which extends between the orifice (7) and the tank (6). 45

14. A washing machine (1) as in Claim 13, **characterized by** the tank (6) which is disposed at the base of the body (2). 50

15. A washing machine (1) as in any of the above claims, **characterized by** the tank (6) which is configured to store salt therein. 50

55

Figure 1

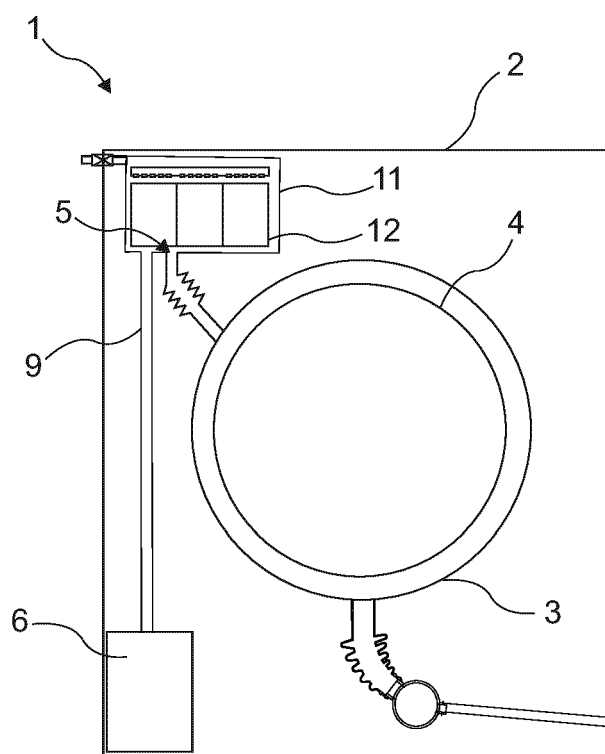


Figure 2

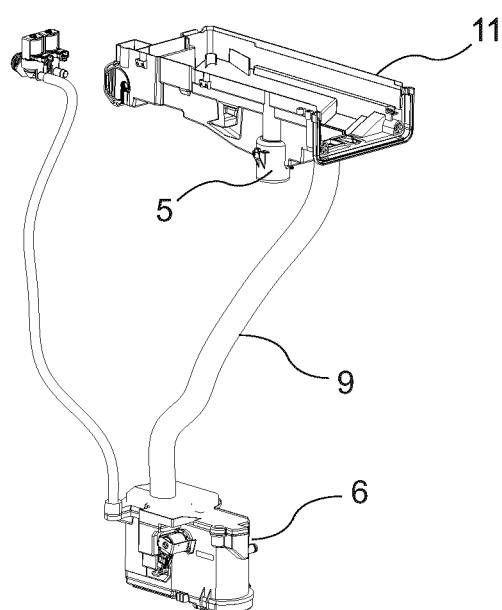


Figure 3

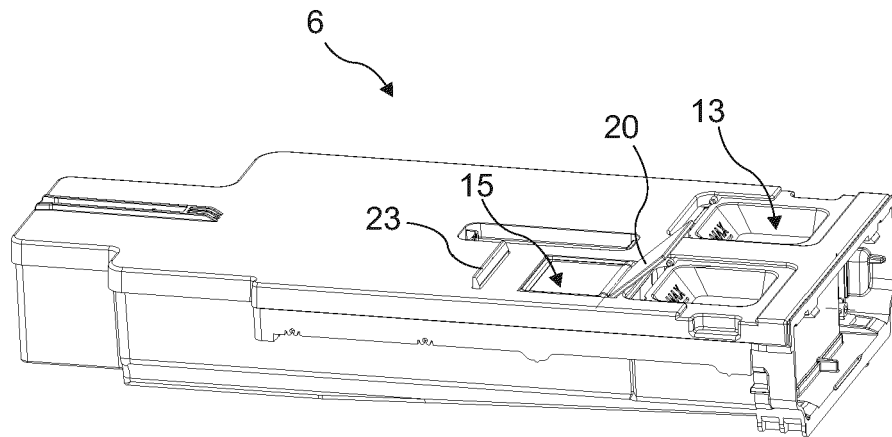


Figure 4

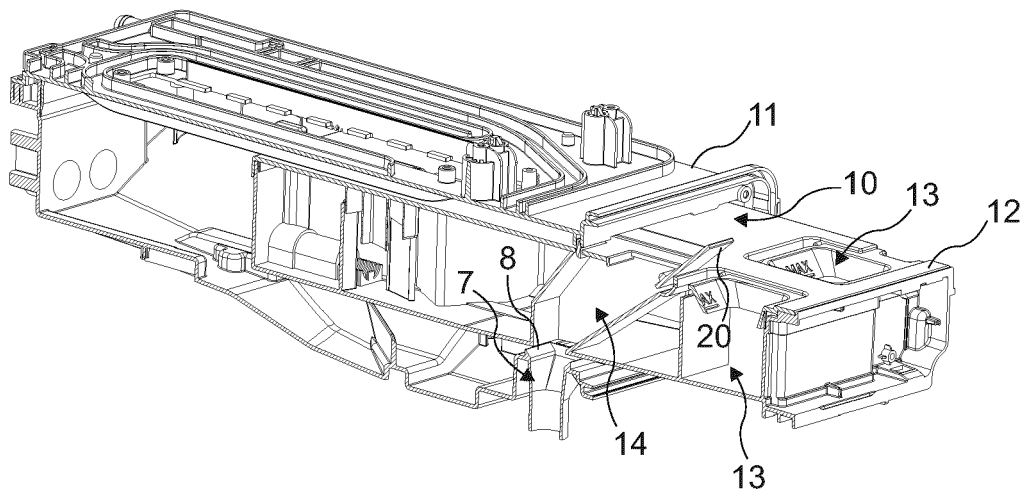


Figure 5

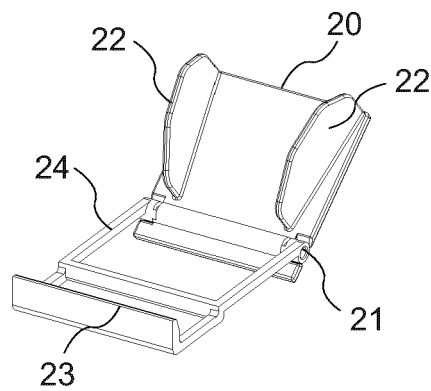


Figure 6

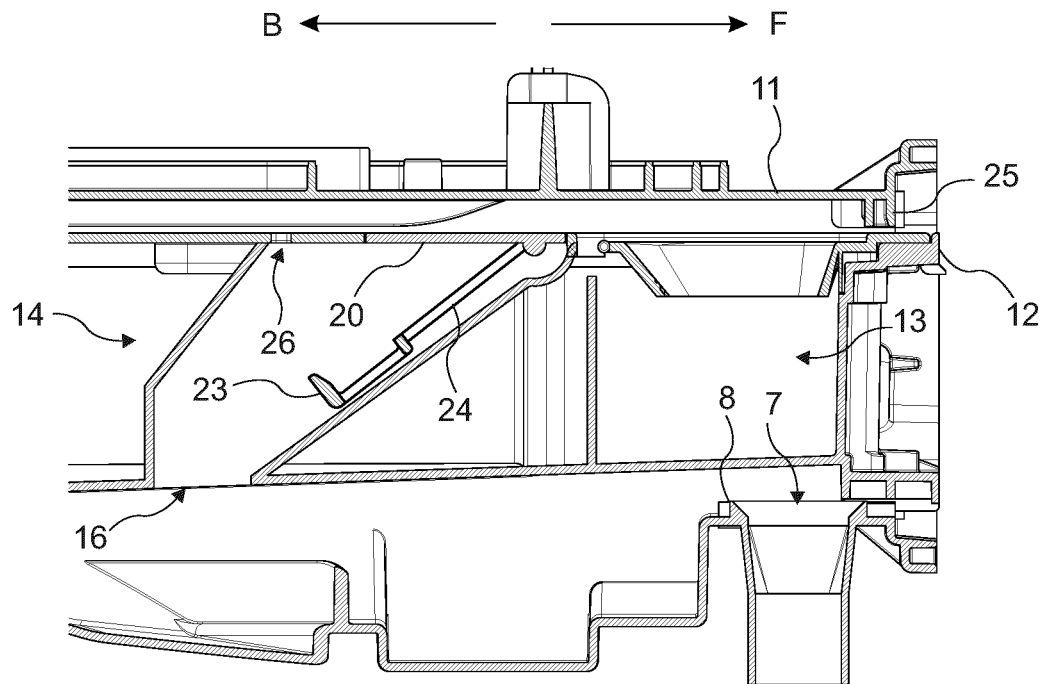
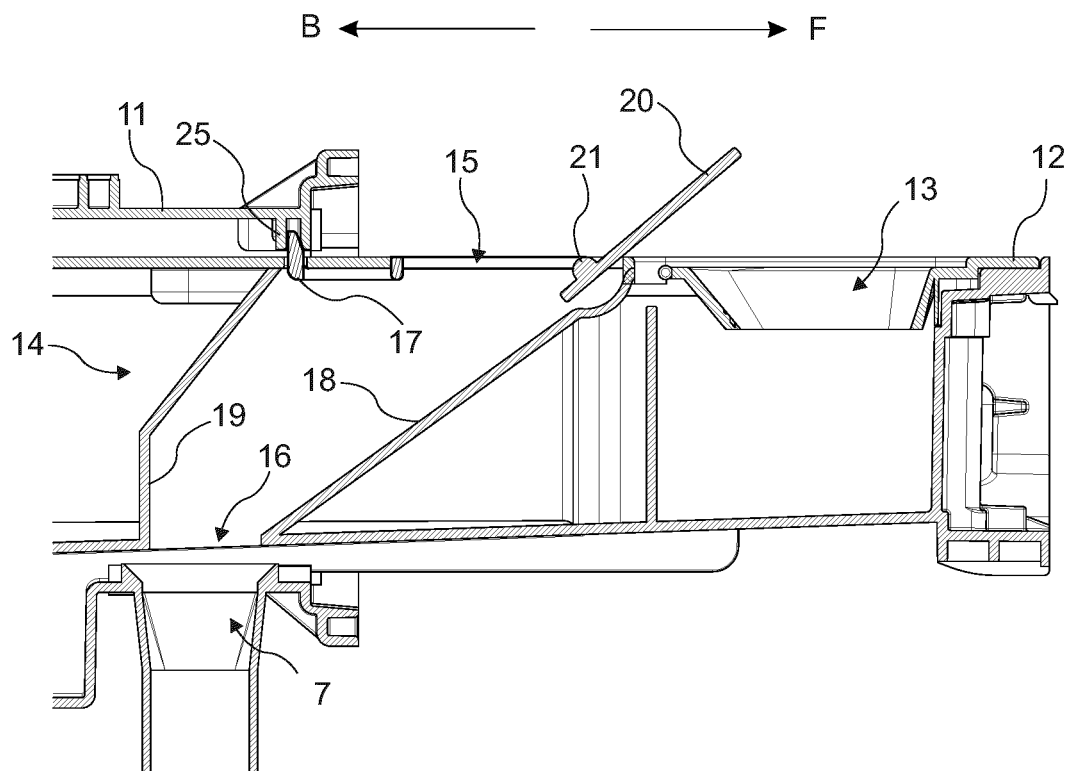


Figure 7





EUROPEAN SEARCH REPORT

Application Number

EP 24 21 5084

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	AU 2012 292 157 A1 (ELECTROLUX HOME PROD CORP) 6 February 2014 (2014-02-06) * page 10, line 18 - page 30, line 29; figures *	1-15	INV. D06F39/02 ADD. D06F39/00
A	WO 2016/078721 A1 (ELECTROLUX APPLIANCES AB [SE]) 26 May 2016 (2016-05-26) * page 11, line 7 - page 38, line 22; figures *	1-15	
			TECHNICAL FIELDS SEARCHED (IPC)
			D06F
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
Munich		14 April 2025	Sangiorgi, Massimo
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			
T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 24 21 5084

5

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

14-04-2025

10

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
AU 2012292157 A1	06-02-2014	AU 2012292157 A1	06-02-2014
		BR 112014002513 A2	14-03-2017
		CN 103732820 A	16-04-2014
		EP 2554739 A1	06-02-2013
		RU 2014107948 A	10-09-2015
		US 2014157835 A1	12-06-2014
		US 2017350059 A1	07-12-2017
		WO 2013017516 A1	07-02-2013

WO 2016078721 A1	26-05-2016	EP 3221501 A1	27-09-2017
		US 2017362763 A1	21-12-2017
		WO 2016078721 A1	26-05-2016

15

20

25

30

35

40

45

50

55

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- EP 2761077 A [0003]