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(54) **A WASHING MACHINE WHEREIN SINGLE DOUBLE WATER INLET CONVERSION IS PERFORMED**

WASCHMASCHINE MIT EINZEL-/DOPPEL-WASSEREINLASSWECHSEL

LAVE-LINGE À ENTRÉE D'EAU UNIQUE TRANSFORMABLE EN VUE D'OBTENIR DEUX ENTRÉES D'EAU

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**WO-A1-2004/106617 US-A1- 2006 048 550**

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## Description

**[0001]** The present invention relates to a washing machine which is produced without hot water connection being made and to which hot water connection is made when required.

**[0002]** In washing machines, water is received from the outside by a water feed line connected to the water mains and by means of water hoses inside the machine body, the water received from the outside is sent to the detergent drawer and after being mixed with detergent here, to the washing medium in the tub. Only cold water is received from the outside to the washing machines having a single water inlet, and the cold water received to the washing medium is heated by means of the heater. Washing machines having double water inlets are connected to the hot water mains and to the cold water mains by two separate lines. The hot water and cold water received from the outside is sent to the washing medium separately or by being mixed according to the need in the washing.

**[0003]** In some cases, hot water can be provided from the water mains with low cost (for example by using solar energy) and in such mediums, using a washing machine that has both cold and hot water inlet is made advantageous. In the embodiments wherein providing hot water from the outside costs much, using a washing machine with a single water inlet is more suitable. The user can request that the washing machine is changed from having a single water inlet to have double water inlets if the conditions of providing hot water from the outside change.

**[0004]** In order to change a washing machine from having a single water inlet to have double water inlets when required, a hot water inlet valve is added to the washing machine. For the electrical control of the valve that is added afterwards, the control card is required to be changed, the upper table of the washing machine is dismantled and considerable modifications are performed in the water and electricity connections inside the body, and this causes an increase in maintenance costs.

**[0005]** In the state of the art United States of America Patent Application No US2002040941, linking two different faucets connected to a single water inlet hose through a branching section is explained. One of the faucets is a cold water faucet and the other one is a hot water faucet, and an electrical valve is connected to each of them. Thus, by means of the valves that can be opened and closed according to the need, cold or hot water is provided to be received into the washing machine by the same water inlet hose.

**[0006]** In the state of the art United States of America Patent No US5425255, in a top loading washing machine, a mixing receptacle having two inlets and one outlet is described. One of the inlets here is the cold water inlet and the other one is the hot water inlet. The mixing receptacle outlet is connected to the tub by an intermediary hose. The hot and cold water inlets are controlled

by valves.

**[0007]** In the state of the art International Patent Application No WO2005064068, in the washing machine, an apparatus to which the solenoid valves whereto the mains water inlet hose is connected are mounted and dismantled is defined. Detachable sliding electric contacts are situated on this apparatus. For contacting the electric contacts, a hose having a piece that can be inserted to the clip structure on the apparatus is used. The said hose transmits electricity by the electric cable therein. Document WO 2004/106617 A1 discloses the features of the preamble of independent claim 1.

**[0008]** The object of the present invention is to provide a washing machine which is produced with a single water inlet such that it can receive only cold water from the water mains and which can be easily converted to have double water inlets afterwards such that hot water connection can be made from the water mains.

**[0009]** The object is solved by the features of independent claim 1.

**[0010]** Preferred embodiments are claimed in dependent claims 2-7.

**[0011]** The washing machine of the present invention is produced with a single water inlet being cold water inlet and is afterwards converted to have double water inlets in accordance with the user request such that it can receive both cold and hot water from the outside. In order that the conversion process is finished in a short period of time by the service agent, the washing machine comprises a hot water hose, one end of which is connected to the cold water hose and which has a water inlet end providing water to be received by being connected to the hot water line when required, and a hose retainer which provides the hot water hose to be retained in the passive state by the water inlet end being mounted thereon in the situation that the hot water line connection is not made. The hose retainer retains the hot water hose inside the body in the passive state and serves as a hanger, to which the unused hot water hose is hung.

**[0012]** The washing machine of the present invention, furthermore, comprises cables that provide the electrical connections to the hot water valve, which is mounted afterwards for activating the hot water line, to be made and cable retainers whereon the cables are mounted by means of the sockets at their ends in the situation that the hot water line connection is not made, thus which provide the cables to be retained in the passive state with no electrical load in the situation that the hot water line is not used.

**[0013]** In an embodiment of the present invention, the washing machine comprises an opening which is located on the body rear wall and which provides the connection to the hot water line to be made when required, and a cap which is closed onto the opening in the situation that the hot water line connection is not made and which is removed from the opening in the situation that the hot water line connection is made, and whereon the hose retainer and the cable retainers are integrated.

**[0014]** The hose retainer and the cable retainers extend towards the inside of the body from the cap that is closed on the opening in the situation that the hot water line is not used.

**[0015]** The opening is large enough for the hot water valve, which is mounted afterwards in order that the hot water line connection can be made, to pass therethrough.

**[0016]** In an embodiment of the present invention, the hose retainer is in the form of a cylindrical protrusion and mounted such that it will enter through the end of the hot water hose, and serves as a plug that prevents the water, which can come from the cold water hose, from flowing outside.

**[0017]** In another embodiment of the present invention, the cable retainers are in the form of a narrow rectangular plate that is similar to the terminal ends used in electrical connections, such that the sockets at the ends of the cables can be mounted thereto.

**[0018]** In another embodiment of the present invention, the cap is produced from plastic material, and the hose retainer and cable retainers on the cap are produced from plastic material as a single piece with the cap.

**[0019]** When the washing machine is changed to have double water inlets by the hot water line being activated, the cap whereon the hose retainer and cable retainers are situated cannot be used, and after the connections of the hot water hose and cables to the hot water valve are made, the opening emptied by the cap is closed by a flange, at the center of which an inlet hole, through which the hot water line passes, is situated.

**[0020]** In the washing machine of the present invention, the present hot water and electricity connections inside the body are easily reached for the process of conversion from having a single water inlet to double water inlets, and the process of conversion is completed in a short period of time.

**[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 sideways schematic view of a washing machine, the cold water connection of which is in the active state and the hot water connection of which is in the passive state.

Figure 2 - is the top schematic view of a washing machine, the cold water connection of which is in the active state and the hot water connection of which is in the passive state.

Figure 3 - is the top schematic view of a washing machine wherein the cap, which is situated on the body at the opening whereto the hot water connection will be made, is removed in order to activate the hot water connection.

Figure 4 - is the top schematic view of a washing machine, the hot water connection of which is activated.

**[0022]** The elements illustrated in the figures are num-

bered as follows:

1. Washing machine
2. Body
3. Tub
4. Detergent drawer
5. Cold water hose
6. Cold water valve
7. Water inlet end
8. Hot water hose
9. Hose retainer
10. Cable
11. Cable retainer
12. Opening
13. Cap

**[0023]** The washing machine (1) comprises a body (2), a tub (3) wherein the washing process is performed, a detergent drawer (4) wherein washing agents are placed, a cold water hose (5) which is located inside the body (2) and provides the water received from the cold water line (CW) for washing processes to be transmitted to the tub (3) through the detergent drawer (4), and a cold water valve (6) which is located inside the body (2), and the inlet of which is connected to the cold water line (CW) and the outlet of which is connected to the cold water hose (5).

**[0024]** The washing machine (1) of the present invention comprises

- a hot water hose (8) which is located inside the body (2) and one end of which is connected to the cold water hose (5), and which has a water inlet end (7) providing water to be received from the hot water line (HW) by being connected to the hot water valve (V) that is mounted afterwards in order to activate the hot water line (HW) when required, and
- a hose retainer (9) which provides the hot water hose (8) to be retained in the passive state by the water inlet end (7) being mounted thereon in the situation that the hot water line (HW) connection is not made.

**[0025]** The washing machine (1) of the present invention, furthermore, comprises more than one cable (10) which are located inside the body (2) and at the ends of which connection sockets are situated, and which provide the electrical connections to the hot water valve (V), mounted afterwards for activating the hot water line (HW) when required, to be made and more than one cable retainer (11) whereon the cables (10) are mounted by means of the sockets at their ends in the situation that the hot water line (HW) connection is not made, and which provide the cables (10) to be retained in the passive state with no electrical load.

**[0026]** When the hot water line (HW) is not used, the water inlet end (7) of the hot water hose (8) inside the body (2) is mounted to the hose retainer (9) and thus, is retained in the passive state without performing the task

of transmitting water. When the hot water line (HW) connection to the washing machine (1) is to be made, the water inlet end (7) that is already mounted to the hose retainer (9) is removed from the hose retainer (9) and freed, and is connected to the hot water valve (V). Similarly, the cables (10) that provide the electrical connection for activating the hot water line (HW) are mounted to the cable retainers (11) by means of the sockets at their ends in the situation that the hot water line (HW) is not used, and are retained in the passive state to be used in the hot water connection. In the situation that the cables (10) are mounted to the cable retainers (11), the control unit does not supply the cables (10) with electric current. When the hot water line connection to the washing machine (1) is to be made, the sockets located at the ends of the cables (10) are removed from the cable retainer (11) and freed, and the hot water line (HW) is activated by making the electrical connections of the sockets to the hot water valve (V).

**[0027]** In an embodiment of the present invention, the washing machine (1) comprises an opening (12) which is located on the body (2) rear wall, preferably right next to the cold water line (CW) and which provides the connection to the hot water line (HW) to be made when required, and a cap (13) which is closed onto the opening (12) in the situation that the hot water line (HW) connection is not made and which is removed from the opening (12) in the situation that the hot water line (HW) connection is made, and whereon the hose retainer (9) and the cable retainers (11) are integrated.

**[0028]** The hose retainer (9) and the cable retainers (11) extend towards the inside of the body (2) from the cap (13) that is closed on the opening (12) in the situation that the hot water line (HW) is not used.

**[0029]** The opening (12) is large enough for the hot water valve (V), which is mounted afterwards in order that the hot water line (HW) connection can be made, to pass therethrough.

**[0030]** When the hot water line (HW) is not used, the water inlet end (7) is mounted to the hose retainer (9) which is located at the cap (13) side that faces the inside of the body (2) and which extends from the opening (12) towards the inside of the body (2). When the hot water line (HW) connection to the washing machine (1) is to be made, the cap (13) is removed from the opening (12) and moved away from the body (2), and the water inlet end (7) mounted to the hose retainer (9) on the cap (13) extends outside from the opening (12) by being pulled away from the body (2) together with the cap (13). Then, the water inlet end (7) is removed from the hose retainer (9) and freed, and connected to the hot water valve (V). The hot water hose (8) can be easily reached through the opening (12) and the hot water line (HW) connection is made without requiring the dismounting of another part of the washing machine (1), for example its upper table.

**[0031]** In order to activate the hot water line (HW), the cables (10) that will carry electric energy to the hot water valve (V) are mounted to the cable retainers (11), which

are located at the cap (13) side that faces the inside of the body (2) and which extend from the opening (12) towards the inside of the body (2), by means of the sockets at the ends of the cables (10) in the situation that the hot water line (HW) is not used. When the hot water connection to the washing machine (1) is to be made, the cap (13) is removed from the opening (12) and pulled out, and the cables (10) are pulled out of the body (2) together with the cap (13) and the hot water hose (8). Then, the sockets located at the cable (10) ends are released from the cable retainers (11) and freed, and the hot water line (HW) is activated by connecting them to the hot water valve (V).

**[0032]** In another embodiment of the present invention, the hose retainer (9) is in the form of a cylindrical protrusion whereon the water inlet end (7) is mounted (Figure 2, Figure 3). In this embodiment, the hose retainer (9) also serves as a plug that prevents the water, which comes (leaks) to the hot water hose (8) from other water lines, for example from the cold water hose (5) it is connected to, from flowing outside by blocking it at the water inlet end (7).

**[0033]** In another embodiment of the present invention, the cable retainers (11) are in the form of a narrow rectangular plate which is similar to the electrical connection terminal and whereon the sockets at the ends of the cables (10) can be easily mounted (Figure 2, Figure 3).

**[0034]** In another embodiment of the present invention, the cap (13) is produced from plastic material, for example by plastic injection method, and the hose retainer (9) and cable retainers (11) are produced as a single piece with the cap (13) in the same plastic injection mould.

**[0035]** In the washing machine (1), a flange (F), which provides the opening (12) to be closed by being mounted in place of the cap (13) that is removed from the opening (12) when the hot water line (HW) connection is made and which has an inlet hole (G) that provides the hot water line (HW) connection hose to extend into the body (2) by being passed therethrough, is used and when the hot water line (HW) is to be activated, the inlet end of the hot water valve (V) is connected to the hot water line (HW) that is passed through the inlet hole (G) of the flange (F), and the outlet end thereof is connected to the water inlet end (7).

**[0036]** In the washing machine (1), when the hot water line (HW) is desired to be activated, the hot water line (HW) connection hose, flange (F) and hot water valve (V) are provided as a group by the service agent, and while the hot water connection is being made, after the cap (13) is removed from the opening (12), the hot water hose (8) and cables (10) removed from the hose retainer (9) and cable retainers (11) are connected to the hot water valve (V), and the hot water valve (V) is positioned inside the body (2) by being pushed in through the opening (12) and the hot water connection process is completed by the flange (F) being mounted onto the opening (12) emptied by the cap (13).

**[0037]** The washing machine (1) of the present inven-

tion is easily converted from having a single water inlet to have double water inlets and dismounting the upper table to make water and electrical connections is not needed. The hot water hose (8) and cables (10), providing the electrical connections to be made, that are present inside the washing machine (1) are fastened to the hose retainer (9) and cable retainers (11) on the cap (13) that is closed onto the opening (12) and are retained in the passive state without any water and electric flow when the hot water line (HW) is not used, and when the hot water connection is to be made, the hot water hose (8) in the passive state and the cables (10) in the passive state are easily reached through the opening (12) when the cap (13) is removed from the opening (12), and the single water inlet - double water inlets conversion is completed by their connections to the hot water valve (V) being made in a very short period of time.

**[0038]** It is to be understood that the present invention is not limited by the embodiments disclosed above and a person skilled in the art can easily introduce different embodiments. These should be considered within the scope of the protection postulated by the claims of the present invention.

#### Claims

1. A washing machine (1) comprising a body (2), a tub (3) wherein the washing process is performed, a detergent drawer (4) wherein washing agents are placed, a cold water hose (5) which is located inside the body (2) and provides the water received from a cold water line (CW) for washing processes to be transmitted to the tub (3) through the detergent drawer (4), and a cold water valve (6) which is located inside the body (2), and the inlet of which is connectable to the cold water line (CW) and the outlet of which is connected to the cold water hose (5),

- a hot water hose (8) which is located inside the body (2) and one end of which is connected to the cold water hose (5), and which has a water inlet end (7) providing water to be received from a hot water line (HW) by being connected to a hot water valve (V),

#### characterized by

- a hose retainer (9) in the form of a cylindrical protrusion which provides the hot water hose (8) to be retained in the passive state inside the body (2) without performing the task of transmitting water and serves as a hanger to which the unused hot water hose (8) is hung, with the water inlet end (7) being mounted on the cylindrical protrusion (9) in the situation that the hot water line (HW) connection is not made,

wherein the hot water valve (V) is mounted in order to activate the hot water line (HW) when required, and

wherein, when the hot water line (HW) connection to the washing machine (1) is to be made, the cylindrical protrusion (9) that is already mounted to the water inlet (7) is removed from the water inlet (7) and the water inlet end (7) is freed, and is connected to the hot water valve (V).

2. A washing machine (1) as in Claim 1, **characterized by** more than one cable (10) which are located inside the body (2) and provide the electrical connections to the hot water valve (V), mounted afterwards for activating the hot water line (HW) when required, to be made and at the ends of which connection sockets are situated, and more than one cable retainer (11) whereon the cables (10) are mounted by means of the sockets at their ends in the situation that the hot water line (HW) connection is not made, and which provide the cables (10) to be retained in the passive state with no electrical load.

3. A washing machine (1) as in Claims 1 and 2, **characterized by** an opening (12) which is located on the body (2) rear wall and provides the connection to the hot water line (HW) to be made when required, and a cap (13) which is closed onto the opening (12) in the situation that the hot water line (HW) connection is not made and which is removed from the opening (12) in the situation that the hot water line (HW) connection is made, and whereon the cylindrical protrusion (9) and the cable retainers (11) are integrated.

4. A washing machine (1) as in Claim 3, **characterized by** the cylindrical protrusion (9) and the cable retainers (11) which extend towards the inside of the body (2) from the cap (13) that is closed on the opening (12) in the situation that the hot water line (HW) is not used.

5. A washing machine (1) as in Claim 3 or 4, **characterized by** the opening (12) that is large enough for the hot water valve (V), which is mounted afterwards in order that the hot water line (HW) connection can be made, to pass therethrough.

6. A washing machine (1) as in any one of the above Claims, **characterized by** the cable retainers (11) which are in the form of a narrow rectangular plate and whereon the sockets at the ends of the cables (10) can be mounted.

7. A washing machine (1) as in any one of the Claims 3 to 6, **characterized by** the cap (13) that is produced from plastic material and by the cylindrical protrusion (9) and cable retainers (11) that are produced

as a single piece with the cap (13).

### Patentansprüche

1. Waschmaschine (1), umfassend einen Gehäusekörper (2), einen Waschbehälter (3), in dem der Waschvorgang ausgeführt wird, ein Waschmittelfach (4), in das Waschmittel gegeben werden, einen Kaltwasserschlauch (5), der im Inneren des Gehäusekörpers (2) angeordnet ist und dafür sorgt, dass Wasser von einer Kaltwasserleitung (CW) für Waschvorgänge durch das Waschmittelfach (4) an den Waschbehälter (3) geleitet wird, und ein Kaltwasserventil (6), das im Inneren des Gehäusekörpers (2) angeordnet ist und dessen Einlass mit der Kaltwasserleitung (CW) verbunden ist und dessen Auslass mit dem Kaltwasserschlauch (5) verbunden ist,

- einen Warmwasserschlauch (8), der im Inneren des Gehäusekörpers (2) angeordnet ist und dessen eines Ende mit dem Kaltwasserschlauch (5) verbunden ist und der ein Wassereinlassende (7) aufweist, das dafür sorgt, dass Wasser von einer Warmwasserleitung (HW) aufgenommen wird, indem es mit einem Warmwasserventil (V) verbunden wird,

### gekennzeichnet durch

- einen Schlauchhalter (9) in Form eines zylindrischen Vorsprungs, der dafür sorgt, dass der Warmwasserschlauch (8) im passiven Zustand im Gehäusekörper (2) gehalten wird, ohne die Aufgabe des Leitens von Wasser auszuüben, und als ein Aufhänger dient, an dem der gewünschte Warmwasserschlauch (8) aufgehängt wird, wobei das Wassereinlassende (7) für den Fall, dass keine Verbindung zur Warmwasserleitung (HW) besteht, an dem zylindrischen Vorsprung (9) angebracht wird,

wobei das Warmwasserventil (V) angebracht ist, um die Warmwasserleitung (HW) bei Bedarf zu aktivieren, und

wobei, wenn eine Verbindung der Warmwasserleitung (HW) zur Waschmaschine (1) hergestellt werden soll, der zylindrische Vorsprung (9), der bereits am Wassereinlass (7) angebracht ist, vom Wassereinlass (7) entfernt wird und der Wassereinlass (7) freigegeben und mit dem Warmwasserventil (V) verbunden wird.

2. Waschmaschine (1) nach Anspruch 1, **gekennzeichnet durch** mehrere Kabel (10), die im Inneren des Gehäusekörpers (2) angeordnet sind und dafür es ermöglichen, dass elektrische Verbindungen zum Warmwasserventil (V), die später bei Bedarf zum

Aktivieren der Warmwasserleitung (HW) erfolgen, hergestellt werden, und an deren Enden Verbindungsbuchsen angeordnet sind, und mehrere Kabelhalter (11), an denen für den Fall, dass keine Verbindung der Warmwasserleitung (HW) besteht, die Kabel (10) mithilfe der Buchsen an ihren Enden angebracht werden, und die dafür sorgen, dass die Kabel (10) im passiven Zustand ohne elektrische Last gehalten werden.

3. Waschmaschine (1) nach den Ansprüchen 1 und 2, **gekennzeichnet durch** eine Öffnung (12), die an der Rückseitenwand des Gehäusekörpers (2) angeordnet ist und dafür sorgt, dass die Verbindung zur Warmwasserleitung (HW) bei Bedarf hergestellt wird, und eine Kappe (13), die für den Fall, dass keine Verbindung der Warmwasserleitung (HW) besteht, die Öffnung (12) verschließt, und für den Fall, dass eine Verbindung der Warmwasserleitung (HW) hergestellt wird, von der Öffnung (12) entfernt wird, und an der der zylindrische Vorsprung (9) und die Kabelhalter (11) integriert sind.

4. Waschmaschine (1) nach Anspruch 3, **dadurch gekennzeichnet, dass** sich der zylindrische Vorsprung (9) und die Kabelhalter (11) von der Kappe (13), die die Öffnung (12) verschließt, zum Gehäusekörper (2) erstrecken, falls die Warmwasserleitung (HW) nicht benutzt wird.

5. Waschmaschine (1) nach Anspruch 3 oder 4, **dadurch gekennzeichnet, dass** die Öffnung (12) groß genug ist, damit das Warmwasserventil (V), das später zum Herstellen der Verbindung der Warmwasserleitung (HW) angebracht wird, dadurch hindurch treten kann.

6. Waschmaschine (1) nach einem der vorangehenden Ansprüche, **dadurch gekennzeichnet, dass** die Kabelhalter (11) die Form einer schmalen rechteckigen Platte aufweisen, an der die Buchsen an den Enden der Kabel (10) angebracht werden können.

7. Waschmaschine (1) nach einem der Ansprüche 3 bis 6, **dadurch gekennzeichnet, dass** die Kappe (13) aus Kunststoffmaterial hergestellt ist und der zylindrische Vorsprung (9) und die Kabelhalter (11) einstückig mit der Kappe (13) gebildet sind.

### Revendications

1. Un lave-linge (1) comprenant un corps (2), une cuve (3) dans laquelle le processus de lavage est effectué, un bac à produits (4) dans lequel des produits de lavage sont placés, un tuyau de l'eau froide (5) qui est situé dans le corps (2) et qui permet le transfert de l'eau, qui est reçue à partir d'une conduite de l'eau

froide (CW) pour le lavage, à la cuve (3) à travers le bac à produits (4), et une soupape de l'eau froide (6) qui est située dans le corps (2), dont l'entrée est reliée à la conduite de l'eau froide (CW) et la sortie est reliée au tuyau de l'eau froide (5),

- un tuyau de l'eau chaude (8) qui est situé dans le corps (2), dont l'une extrémité est reliée au tuyau de l'eau froide (5), et qui présente une extrémité d'entrée d'eau (7) permettant la prise de l'eau à partir d'une conduite de l'eau chaude (HW) en étant reliée à une soupape de l'eau chaude (V),

#### caractérisé par

- un dispositif de retenue de tuyau (9) en forme d'une protubérance cylindrique, qui permet au tuyau de l'eau chaude (8) d'être retenu dans la position passive dans le corps (2) sans effectuer la tâche de transmission de l'eau et sert de dispositif de suspension auquel le tuyau de l'eau chaude (8) est suspendu, dont l'extrémité d'entrée d'eau (7) est montée sur la protubérance cylindrique (9) au cas où la connexion de la conduite de l'eau chaude (HW) ne serait pas effectuée,

où la soupape de l'eau chaude (V) est montée afin d'activer la conduite de l'eau chaude (HW) lorsque l'on désire, et

où, lorsque la connexion de la conduite de l'eau chaude (HW) au lave-linge (1) doit être effectuée, la protubérance cylindrique (9), qui est déjà montée à l'entrée d'eau (7), est détachée de l'entrée d'eau (7) et l'extrémité d'entrée d'eau (7) est libérée, et est reliée à la soupape de l'eau chaude (V).

2. Un lave-linge (1) selon la Revendication 1, **caractérisé par** plus d'un câble (10) qui est situé dans le corps (2) et permet la réalisation des connexions électriques à la soupape de l'eau chaude (V), qui est montée après pour l'activation de la conduite de l'eau chaude (HW) le cas échéant, et sur les extrémités duquel sont placés des prises de connexion, et plus d'un dispositif de retenue de câble (11) sur lequel les câbles (10) sont montés par les prises situées à leurs extrémités au cas où la connexion de la conduite de l'eau chaude (HW) ne serait pas effectuée, et qui permet aux câbles (10) d'être retenus dans la position passive sans aucune charge électrique.
3. Un lave-linge (1) selon la Revendication 1 ou 2, **caractérisé par** une ouverture (12) qui est arrangée sur la paroi arrière du corps (2) et qui permet la réalisation de la connexion à la conduite de l'eau chaude (HW) le cas échéant, et un chapeau (13) qui est fermé sur l'ouverture (12) au cas où la connexion de la

conduite de l'eau chaude (HW) ne serait pas effectuée et qui est détaché de l'ouverture (12) au cas où la connexion de la conduite de l'eau chaude (HW) est effectuée, et sur lequel la protubérance (9) et les dispositifs de retenue de câble (11) sont intégrés.

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4. Un lave-linge (1) selon la Revendication 3, **caractérisé par** la protubérance cylindrique (9) et les dispositifs de retenue de câble (11) qui s'étendent vers l'intérieur du corps (2) à partir du chapeau (13) qui est fermé sur l'ouverture (12) au cas où la conduite de l'eau chaude (HW) ne serait pas utilisée.

5. Un lave-linge (1) selon la Revendication 3 ou 4, **caractérisé par** l'ouverture (12) qui est suffisamment grande pour le passage de la soupape de l'eau chaude (V), qui est monté après afin que la connexion de la conduite de l'eau chaude (HW) soit effectuée.

6. Un lave-linge (1) selon l'une quelconque des revendications précédentes, **caractérisé par** les dispositifs de retenue de câble (11) qui sont en forme d'une plaque rectangulaire étroite et sur lesquels les prises situées aux extrémités des câbles (10) peuvent être montées.

7. Un lave-linge (1) selon l'une quelconque des revendications de 3 à 6, **caractérisé par** le chapeau (13) qui est produit en plastique et **par** la protubérance cylindrique (9) et les dispositifs de retenue de câble (11) qui sont produits comme une seule pièce avec le chapeau (13).

Figure 1

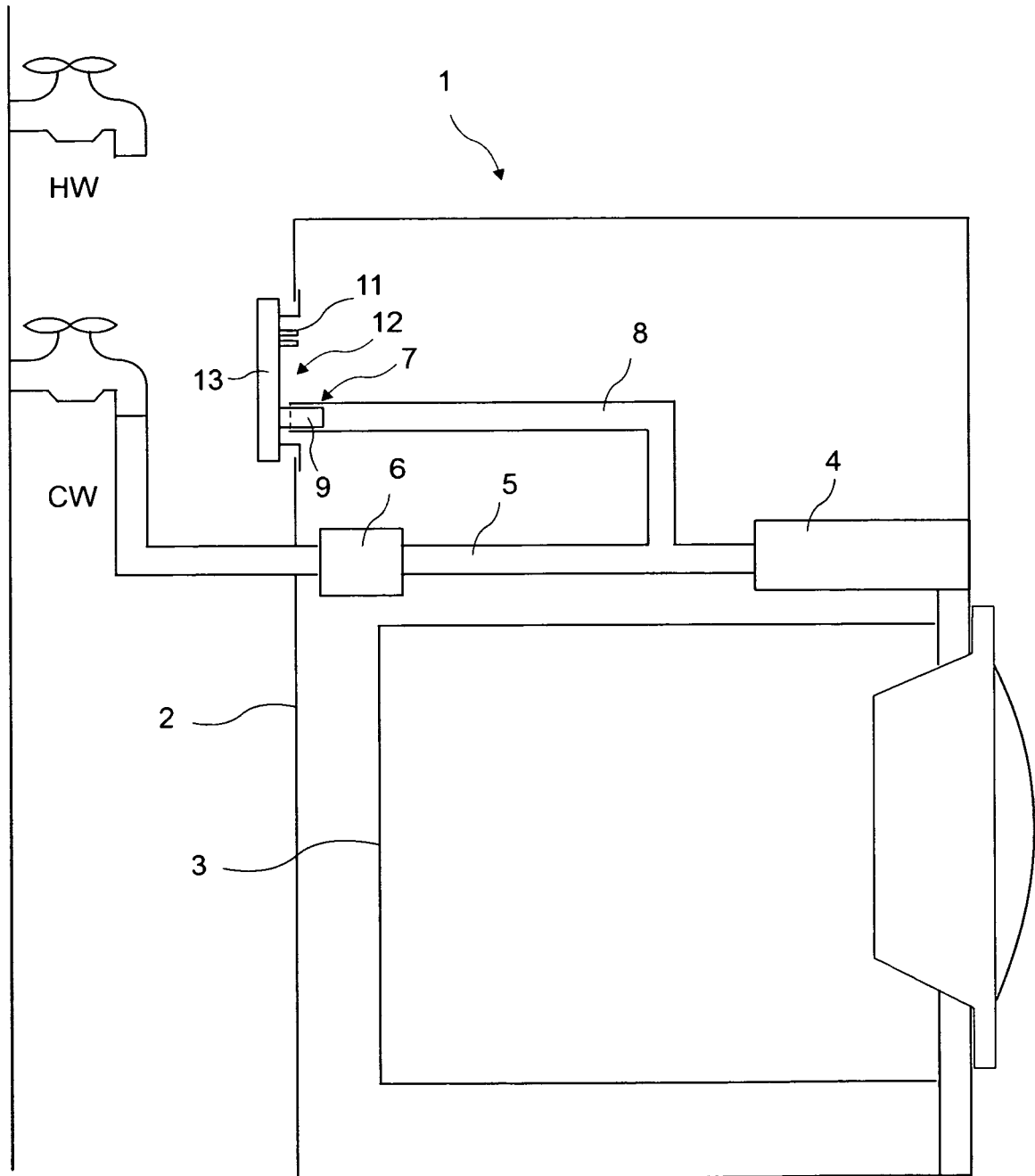


Figure 2

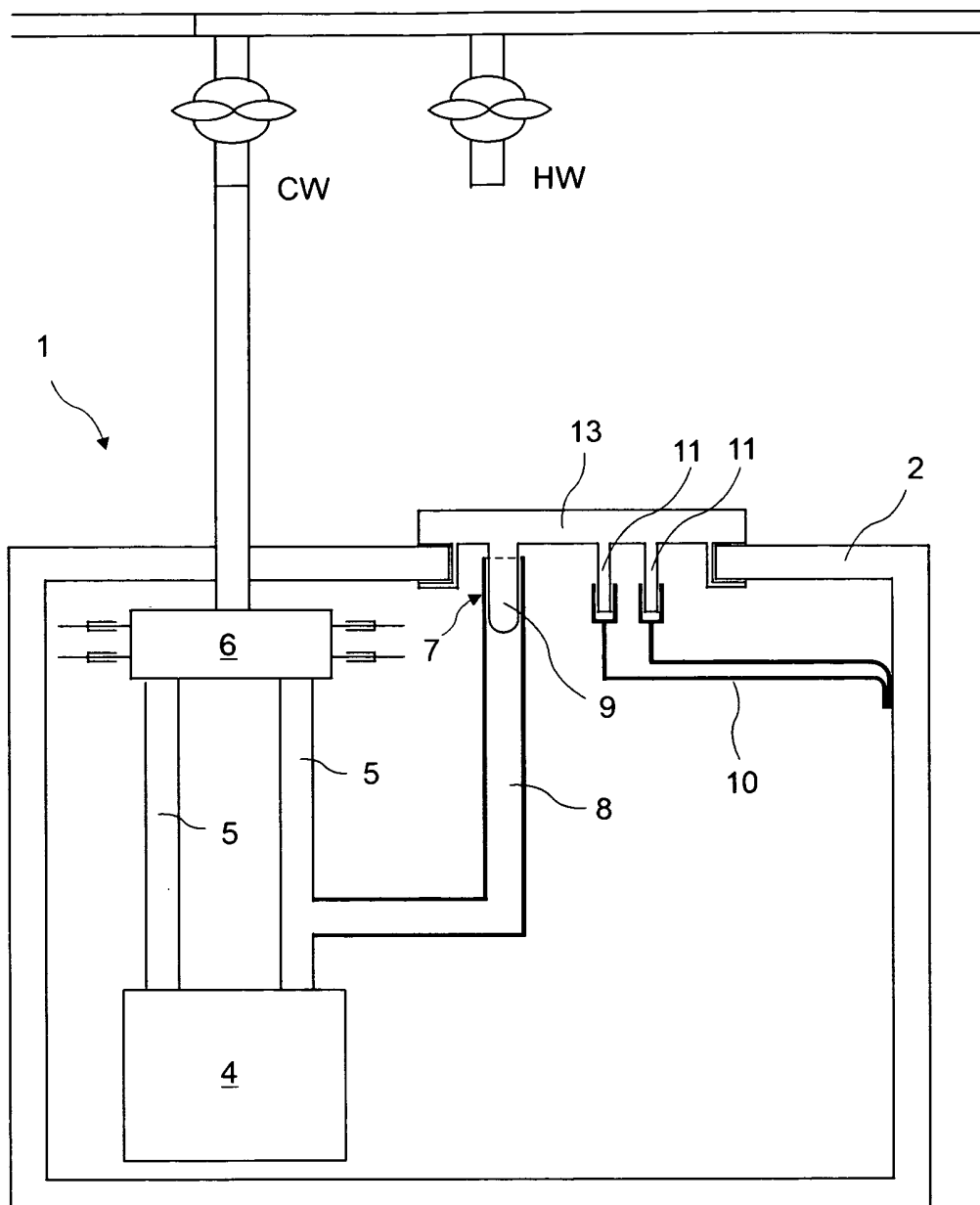


Figure 3

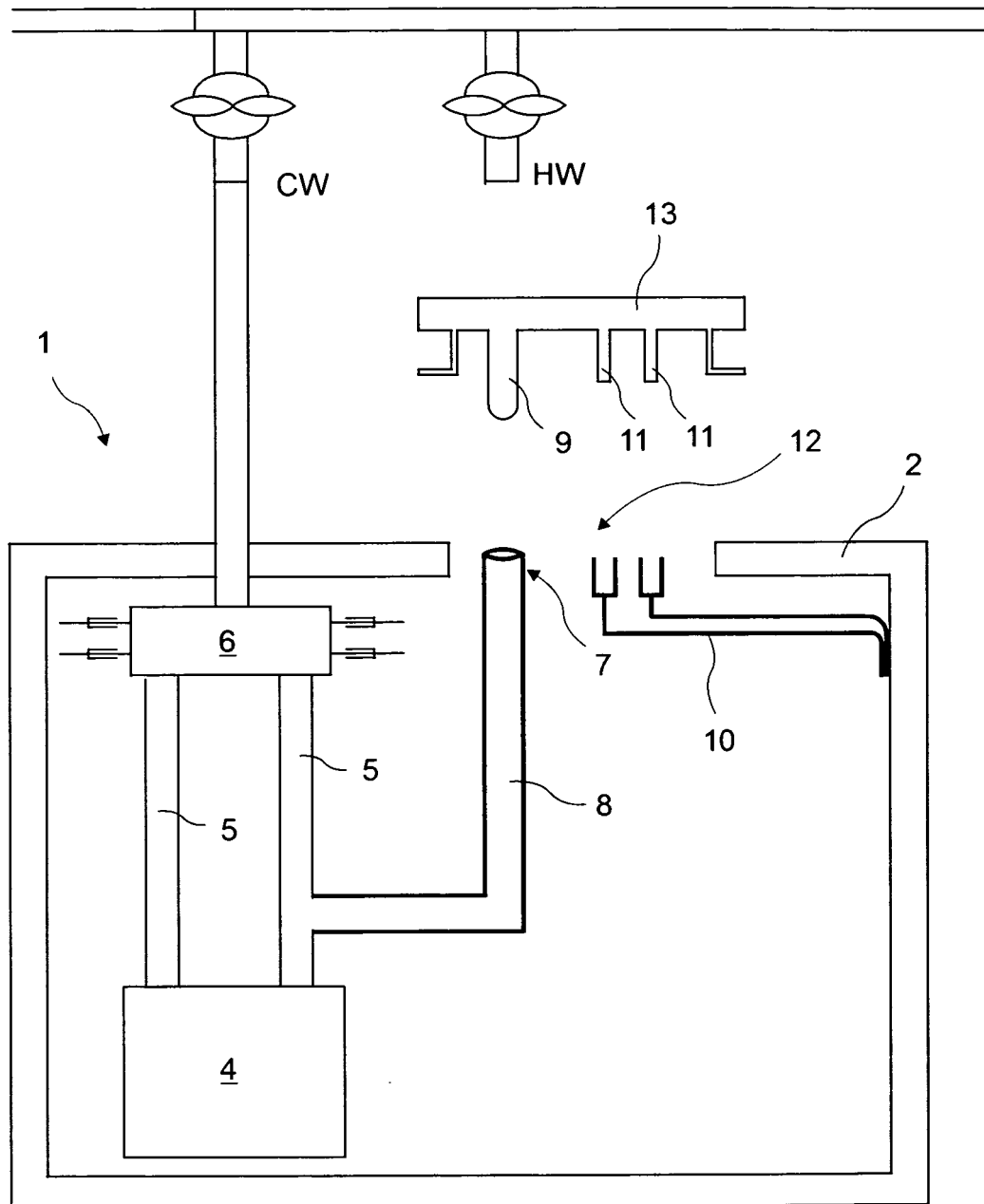
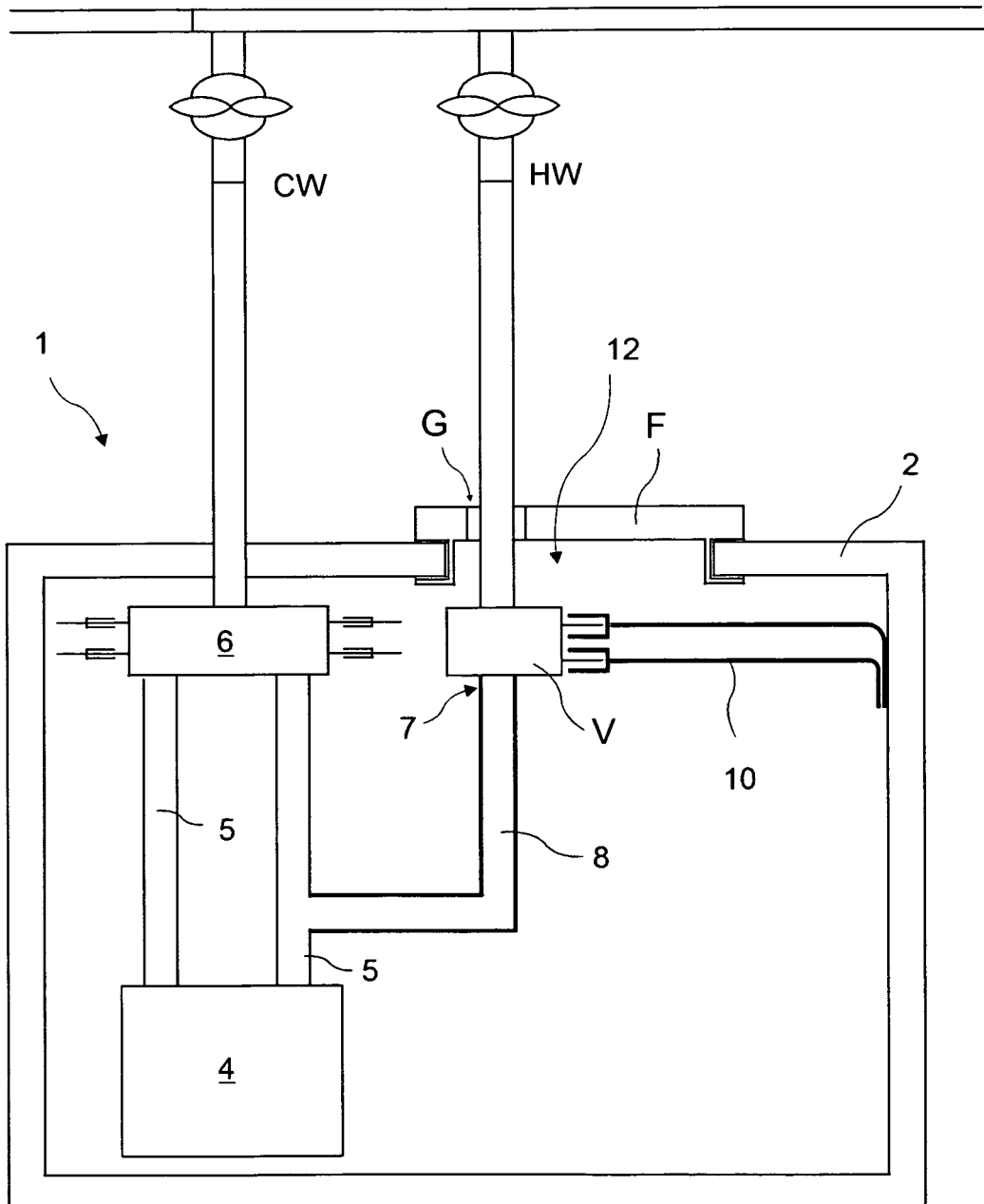


Figure 4



**REFERENCES CITED IN THE DESCRIPTION**

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