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(54) **Water distributor device adapted to contain possible leaks**

Zur Eindämmung von möglichen Lecks angepasste Wasserverteilungsvorrichtung

Dispositif de distribution d'eau conçu pour contenir des fuites éventuelles

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Description

[0001] The present invention relates to a water distributor device, commonly called "air break" in the technical jargon, for domestic washing appliances, such as dishwashers and washing machines.

[0002] More particularly, a device of this type comprises a body from which a sleeve, which is connected to a flexible mains water feed tube, departs. The water which is fed in is subsequently split within the distributor device into different flows which are directed to a softening device, for softening, and for the formation of a regeneration brine, respectively.

[0003] More specifically, the present invention relates to a water distributor device having the features indicated in the preamble of Claim 1 below. A known device of this type is described in the prior document WO-2011/057 513.

[0004] If the seal between the sleeve and the feed tube is not perfect, the resulting leaks of water are collected on the bottom of the domestic appliance. As a result, these leaks, even if only present in a small quantity, activate the safety systems of the appliance, causing it to stop operating and requiring the intervention of the technical assistance service to restart it.

[0005] The object of the present invention is to overcome the aforementioned drawbacks of the known art.

[0006] According to the invention, this object is achieved by means of a water distributor device having the features stated in the preamble of Claim 1 below, and characterized in that said device comprises a reservoir and the aforesaid sleeve is located in said reservoir, whereby possible water leaks from the connection to the aforesaid feed tube are collected on the bottom of the reservoir.

[0007] Thus small leaks of water from the connection between the sleeve and the feed tube are prevented from flowing out, thereby avoiding the stoppage of the domestic appliance and the necessity for external intervention for restarting.

[0008] The quality rating of this connection can therefore be reduced, with the further advantage of a reduction in rejection rates during production and in the non-routine interventions required for the recovery of the rejected items.

[0009] It should also be noted that, even if a corrugated tube is used as the feed tube, the tube can be connected directly to the sleeve, since any small leaks from the plastic-to-plastic seal are contained in the reservoir. On the contrary, an additional gasket has to be co-moulded on to the corrugated tube according to the prior art, since a perfectly watertight seal is essential.

[0010] A further subject of the present invention is a domestic washing appliance comprising a water distributor device of the aforementioned type.

[0011] Other advantages and features of the present invention will become clear from the following detailed description which is given by way of non-limiting example

with reference to the attached drawings, in which:

Figure 1 is an exploded perspective view of a device according to the invention,

Figure 2 is a perspective view of the device of Figure 1 in its assembled form,

Figure 3 is a side elevation of the device of Figure 2, and

Figure 4 is a sectional view taken along the line IV-IV of Figure 3.

[0012] A water distributor device for a domestic washing appliance, such as a dishwasher, has a hollow body 10 of plastic material substantially shaped in the form of a flattened parallelepiped having two lateral major faces 12, two lateral minor faces 14, a bottom face 16 and a top face 18. On one of the major faces 12 there is formed a hole 20 which, when the distributor has been mounted at the side of a lateral wall of the washing chamber of the domestic appliance, provides a passage for the discharge of steam formed therein during operation.

[0013] A first conduit 22, for sending water to be softened to a softener (not shown in the drawings), and a second conduit 24, for sending water required for the formation of a regeneration brine to the softener, protrude from the bottom of the body 10 in a known way.

[0014] On the lower end of one of the lateral minor sides 14 there is formed a reservoir 26, open at the top, into which protrudes a sleeve 28 which is connected to a mains water feed tube 30, of the corrugated type for example.

[0015] The tube 30 is simply fitted on to the sleeve 28, since possible water leaks from the connection are collected on the bottom of the reservoir 26 and do not flow outwards, which would cause the activation of the safety systems of the domestic appliance.

[0016] In embodiments of the invention which are not shown, an additional gasket can nevertheless be co-moulded on to the corrugated tube as specified in the prior art.

[0017] A discharge conduit 32 also departs from the reservoir 26 and passes through the body 10 of the distributor, for conveying the water leaks into the washing chamber through the hole 20.

[0018] The details of the internal water circuit of the distributor which splits the water fed from the tube 30 into flows intended for the conduits 22 and 24 are not described herein, since they are entirely conventional and are well known to persons skilled in the art.

[0019] In variants of the invention which are not shown, the distributor device is also capable of collecting leaked water from a "waterstop" safety device in order to prevent it from flowing outwards.

[0020] Naturally, the principle of the invention remaining the same, the details of construction and the forms of embodiment may be varied widely with respect to those described, which have been given purely by way of example, without thereby departing from the scope of the

invention as defined in the attached claims.

Claims

1. Water distributor device which is to be fitted at the side of a lateral wall of the washing chamber of a domestic washing appliance, and which comprises a body (10) from which a sleeve (28), which is connected to a water feed tube (30), departs, the body (10) being substantially shaped in the form of a flattened parallelepiped having two lateral major faces (12), two lateral minor faces (14), a bottom face (16) and a top face (18), said device being **characterized in that** it comprises a reservoir (26) and **in that** said sleeve (28) is located in said reservoir (26), whereby possible water leaks from the connection to said feed tube (30) are collected on the bottom of the reservoir (26).
2. Device according to Claim 1, wherein said reservoir (26) is located at the lower end of one of the lateral minor faces (14).
3. Device according to any of the preceding claims, wherein said reservoir (26) is open at the top to allow the introduction of said feed tube (30).
4. Device according to any of the preceding claims, wherein said water feed tube (30) is corrugated.
5. Device according to any of the preceding claims, wherein said reservoir (26) has a conduit (32) for discharging said leaks.
6. Domestic washing appliance comprising a water distributor device according to any one of the preceding claims.
7. Domestic appliance according to Claim 6, wherein said reservoir (26) is connected by a discharge conduit (32) to the washing chamber to which said leaks are conveyed.

Patentansprüche

1. Wasserverteilungsvorrichtung, die auf der Seite einer Seitenwand einer Waschkammer eines häuslichen Waschgerätes montierbar ist und ein Gehäuse (10) hat, von dem eine Muffe (28) abgeht, die mit einem Wasserzuführungsrohr (30) verbunden ist, wobei das Gehäuse (10) im Wesentlichen in der Form eines abgeflachten Parallelepipeds geformt ist, der zwei Hauptseitenflächen (12), zwei Nebenseitenflächen (14), eine Unterseite (16) und eine Oberseite (18) hat, wobei die Vorrichtung **dadurch gekennzeichnet ist, dass**

sie ein Reservoir (26) aufweist, und dass sich die Muffe (28) in dem Reservoir (26) befindet, wodurch mögliche Wasserleckagen aus der Verbindung mit dem Wasserzuführungsrohr (30) auf dem Boden des Reservoirs (26) gesammelt werden.

2. Vorrichtung nach Anspruch 1, wobei sich das Reservoir (26) am unteren Ende einer der Nebenseitenflächen (14) befindet.
3. Vorrichtung nach einem der vorstehenden Ansprüche, wobei das Reservoir (26) oben offen ist, um die Einführung des Wasserzuführungsrohres (30) zu ermöglichen.
4. Vorrichtung nach einem der vorstehenden Ansprüche, wobei das Wasserzuführungsrohr (30) gewellt ist.
5. Vorrichtung nach einem der vorstehenden Ansprüche, wobei das Reservoir (26) eine Leitung (32) zum Abführen der Leckagen hat.
6. Häusliches Waschgerät mit einer Wasserverteilungsvorrichtung nach einem der vorstehenden Ansprüche.
7. Häusliches Gerät nach Anspruch 6, wobei das Reservoir (26) durch eine Ablaufleitung (32) mit der Waschkammer verbunden ist, zu der die Leckagen gefördert werden.

Revendications

1. Dispositif de distribution d'eau destiné à être monté sur le côté d'une paroi latérale de la chambre de lavage d'un appareil de lavage domestique, et qui comprend un corps (10) duquel part un manchon (28) qui est connecté à un tuyau d'alimentation en eau (30), le corps (10) ayant substantiellement la forme d'un parallélépipède aplati ayant deux faces principales latérales (12), deux petites faces latérales (14), une face inférieure (16) et une face supérieure (18), ledit dispositif étant **caractérisé en ce qu'il** comprend un réservoir (26) et **en ce que** ledit manchon (28) est situé dans ledit réservoir (26), moyennant quoi les éventuelles fuites d'eau au niveau de la connexion avec ledit tuyau d'alimentation (30) sont collectées au fond du réservoir (26).
2. Dispositif selon la revendication 1, dans lequel ledit réservoir (26) est situé à l'extrémité inférieure de l'une des petites faces latérales (14).
3. Dispositif selon l'une quelconque des revendications précédentes, dans lequel ledit réservoir (26) est

ouvert au sommet pour permettre l'introduction dudit tuyau d'alimentation (30).

4. Dispositif selon l'une quelconque des revendications précédentes, dans lequel ledit tuyau d'alimentation en eau (30) est cannelé. 5
5. Dispositif selon l'une quelconque des revendications précédentes, dans lequel ledit réservoir (26) comporte une conduite (32) pour évacuer lesdites fuites. 10
6. Appareil de lavage domestique comprenant un dispositif de distribution d'eau conforme à l'une quelconque des revendications précédentes. 15
7. Appareil domestique selon la revendication 6, dans lequel ledit réservoir (26) est relié par une conduite d'évacuation (32) à la chambre de lavage vers laquelle lesdites fuites sont évacuées. 20

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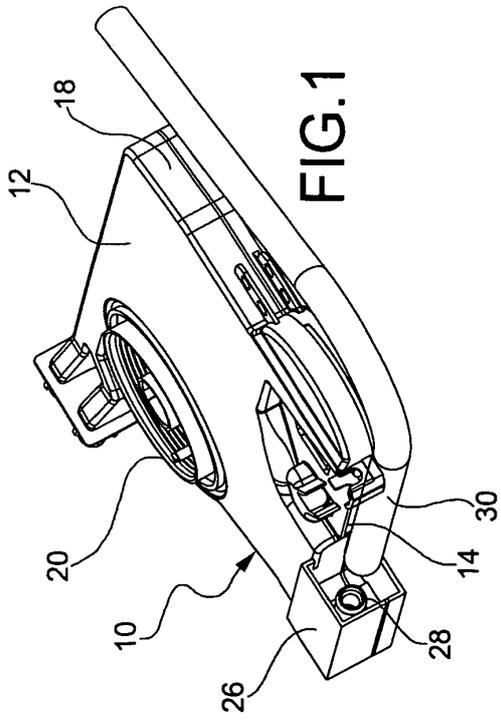


FIG. 1

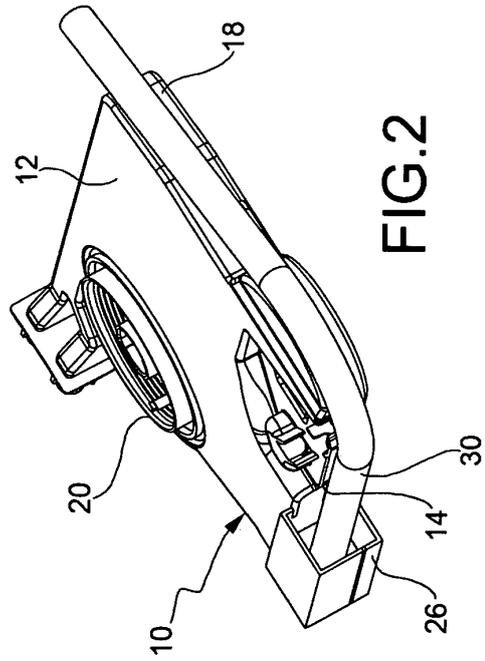


FIG. 2

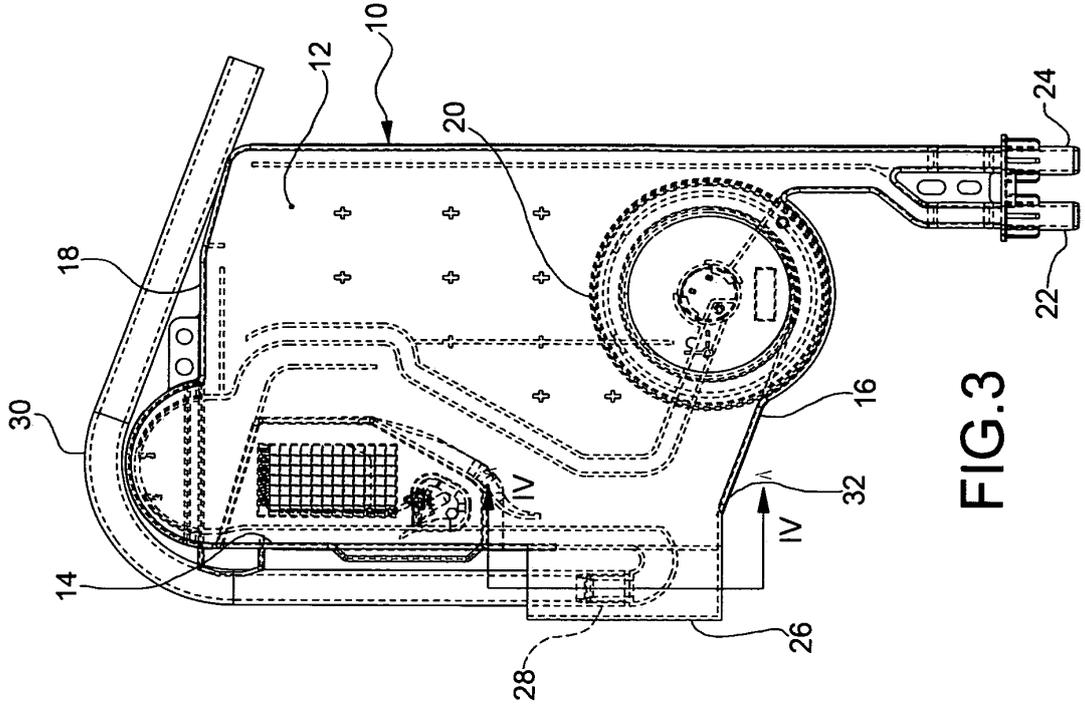


FIG. 3

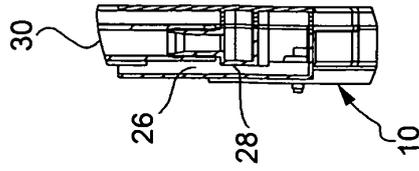


FIG. 4

REFERENCES CITED IN THE DESCRIPTION

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