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(54) Tank for household appliance, particularly for washing machine.

(57) The present invention relates to a tank for household appliance, particularly for top-loading washing machines, comprising a horizontal axis for the arrangement of a washing basket; the main feature of the tank is that it is realized by two shells, which present a watertight joining profile included in a plane inclined in respect of the horizontal plane.

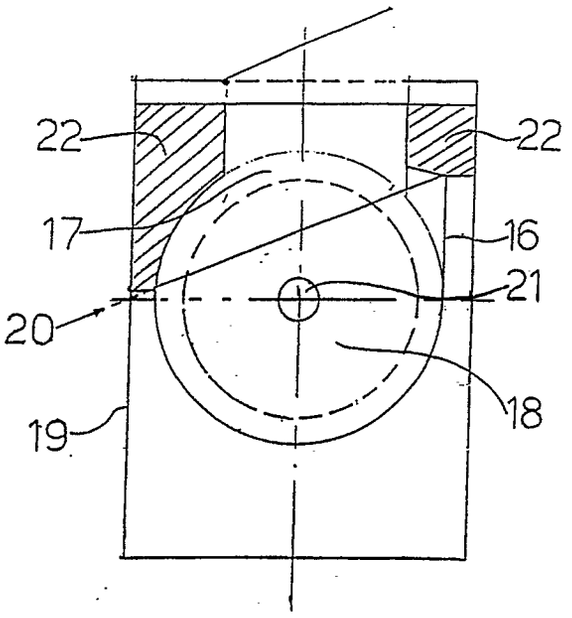

Fig.3

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TANK FOR HOUSEHOLD APPLIANCE, PARTICULARLY FOR WASHING MACHINES

The present invention relates to a tank for household appliance, particularly for top-loading washing machines, comprising a horizontal axis for the arrangement of a washing basket.

Known household appliances, particularly top-loading washing machines, comprise a tank, whose shape has a considerable importance for the arrangement of the different internal components of the machine. For this reason it has been investigated a way to realize tanks having a slender structure, where the watertightness is assured and the hollow spaces, between tank and casing, are fully recoverable for the location of the electrical and/or mechanical components, the detergent dispenser and the counterweights.

Several embodiments of tanks for top-loading washing machines are known, which, for instance, present a circumferential shell and a watertignt inserted disc-shaped flange. It presents the main drawback to have the joining plane, in part, below the level of the washing liquids.

Other embodinents with double shell structures provide joining profiles not included in a plane, so being more complicate to realize, more expensive and above all less reliable for the prevention of eventual losses; other different ones present joining profiles included in a horizontal plane, but they are or too close to the rigid supports of the household appliance, which allow the rotating movement of the basket, so possibly causing an insufficient rigidity and tank fractures, or very near to the upper surface of the machine, so limiting the hollow spaces which can be used to locate some components.

Aim of the present invention is thus to indicate a tank for household appliance, particularly for top-loading washing machines, which allows the optimization of the aforesaid often conflicting functional and cost requirements.

To achieve such purpose the subject of the present invention is a tank for household appliance, particularly for top-loading washing machines, comprising a horizontal axis for the arrangement of a washing basket characterized by the fact that it is realized by two shells, which present a watertight joining profile included in a plane inclined in respect of the horizontal plane.

Further purposes and advantages of the present invention are clearly shown in the following detailed description and annexed drawings by way of an explicative and not limiting example, wherein:

- figure 1 shows a view of a known embodiment of the tank for a top-loading washing machine;
- figure 2 shows a view of a further known embodiment of the tank for a top-loading washing machine;
- figure 3 shows a view of the tank of a top-loading washing machine, according to the invention.

Figure 1 shows in view a tank 1, realized in a known way, housed inside a cabinet 2 for top-loading washing machine. Such a tank 1 is formed by two shells 3 and 4 which present a joining profile not included in a plane.

This type of tank, so conceived, allows the presence of considerable spaces 6 inside the cabinet for the location of the components, especially due to its almost circular shape.

Nevertheless the joining profile 5 not included in a plane has a limited reliability in its watertightness, also due to its arrangement near to the rigid supports 7, which considerably stress the tank 1 during the laundry spinning cycles.

Figure 2 shows in view a second known embodiment of a tank 8 housed inside a cabinet 9 for a top-loading washing machine.

Also this tank 8 presents an embodinent with two shells 10 and 11, but unlike the previous one it provides a joining profile 12 included in a plane, horizontally arranged.

A tank so conceived presents the advantage of having a good watertightness due to the arrangement of the joining profile 12 included in a plane and in a position not too close to the rigid supports 7; nevertheless, to obtain that it is necessary an arrangement of said joining profile 12 near the top opening 14 of the tank 0, so considerably reducing the space 15 for the location of components necessary for the washing machine operation.

Figure 3 shows a tank 16 realized with two shells 17 and 18, according to the invention, housed inside a cabinet 19 of a top-loading washing machine.

Tank 16 is realized so that the joining profile 20 is included in a plane, but said plane is inclined in respect of the horizontal one.

The inclined arrangement of the joining profile 20 allows a great reliability of the watertightness of tank 16, as the level of the washing liquids is in a lower position in respect of the lower union point of the shells 17 and 18, the distance between said joining plane and the rigid supports 21 is sufficiently great and the inferior shell 18 is structured so to easily house said supports 21 of the hubs which support the basket.

This embodiment combines the advantage of a good watertightness with the fact of allowing the recovery of a large hollow space 22 for the location of the counterweights, the timer, the detergent dis-

penser and the various control devices. All of that is necessary to import to the washing machine a great reliability, but without the reduction of the dimensions of the internal elements, first of all of the volumes of the tank and the basket, as in the two embodiments described with reference to fig. 1 and 2.

The above described tank 16 can have a preferential embodiment in plastic material, but a different embodiment has to be considered as a part of the present inventive idea.

The characteristics of the described tank for washing machine are clearly shown in the description and annexed drawings.

Also the advantages of the tank subject of the present invention are clear from the detailed description.

Specifically, they are represented by the optimization of the often conflicting functional characteristics of the washing machine, that is to say to present a qualitative balance between:

- watertightness reliability of the joining profile;
- resistence to the stress caused by the basket centrifuging movement and the rigidity of the group;
- capacity to house components having suitable dimensions (tank, basket, dispenser);
- space for the location of the counterweights, the supports, the electric components and the various command.

It is obvious that many other changes are possible for the man skilled in the art, to the tank described as an example, without departing from the scope of the innovating criteria inherent to the present invention.

Among the variants it is suggested the possibility to locate a drying air circuit, taking advantage from the hollow spaces 22 for the arrangement of the specific components, so to realize a washing-drying machine.

Claims

1. Tank for household appliance, particularly for top-loading washing machines, comprising a horizontal axis for the arrangement of a washing basket, characterized by the fact that the tank (16) is realized by two shells (17,18), which present a watertight joining profile (20) included in a plane inclined in respect of the horizontal plane.

2. Tank for household appliance, particularly for top-loading washing machines, according to claim 1, characterized by the fact that the joining profile (20) of the two shells (17,18) is arranged above the level of the washing liquids contained in the tank.

3. Tank for household appliance, particularly for top-loading washing machines, according to claim 2, characterized by the fact that the tank (15) has a slender upper part so to define between it and a cabinet (16) a hollow space (22) which can be used to locate mechanical and/or electrical components and the control devices for the dishwashing machine.

4. Tank for household appliance, particularly for top-loading washing machines, according to claim 3, characterized by the fact that the walls of the inferior shell (18) have a bearing structure to sustain supports (21) for a basket containing the laundry to be washed.

5. Tank for household appliance, particularly for top-loading washing machines, according to claim 1, characterized by the fact that the tank (16) is implemented preferably with plastic material.

6. Tank for household appliance, particularly for top-loading washing machines, according to claim 3, characterized by the fact that the hollow space (22) can be used for the location of the components necessary to convey into the tank (16) hot drying air and of the other elements necessary for the realization of a washing and drying machine.

Fig.2

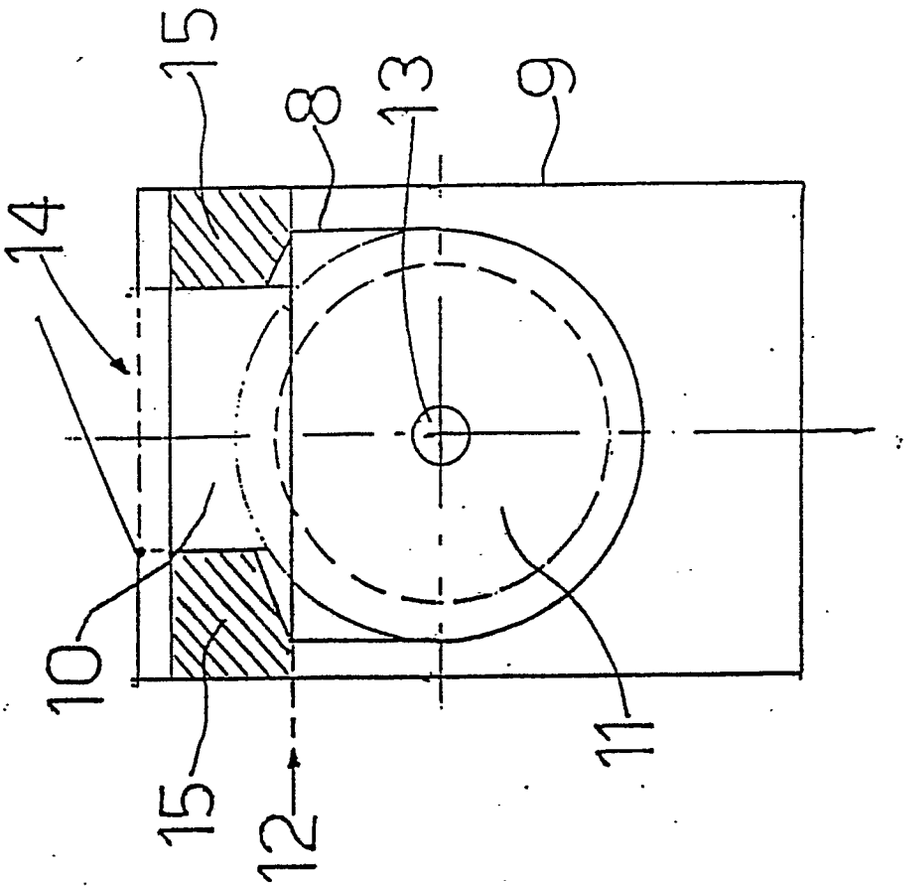
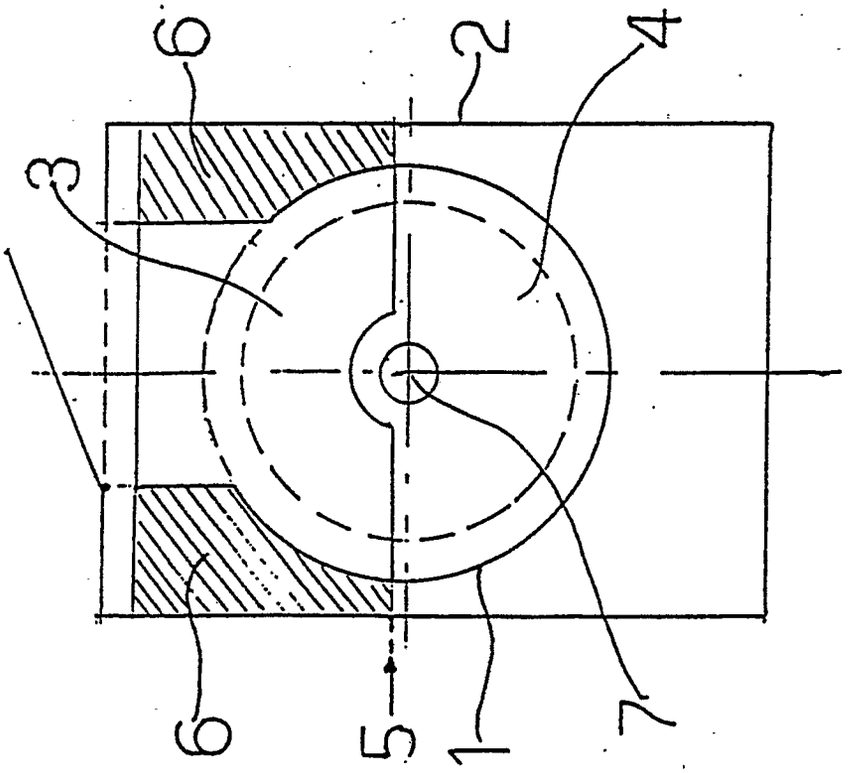


Fig.1



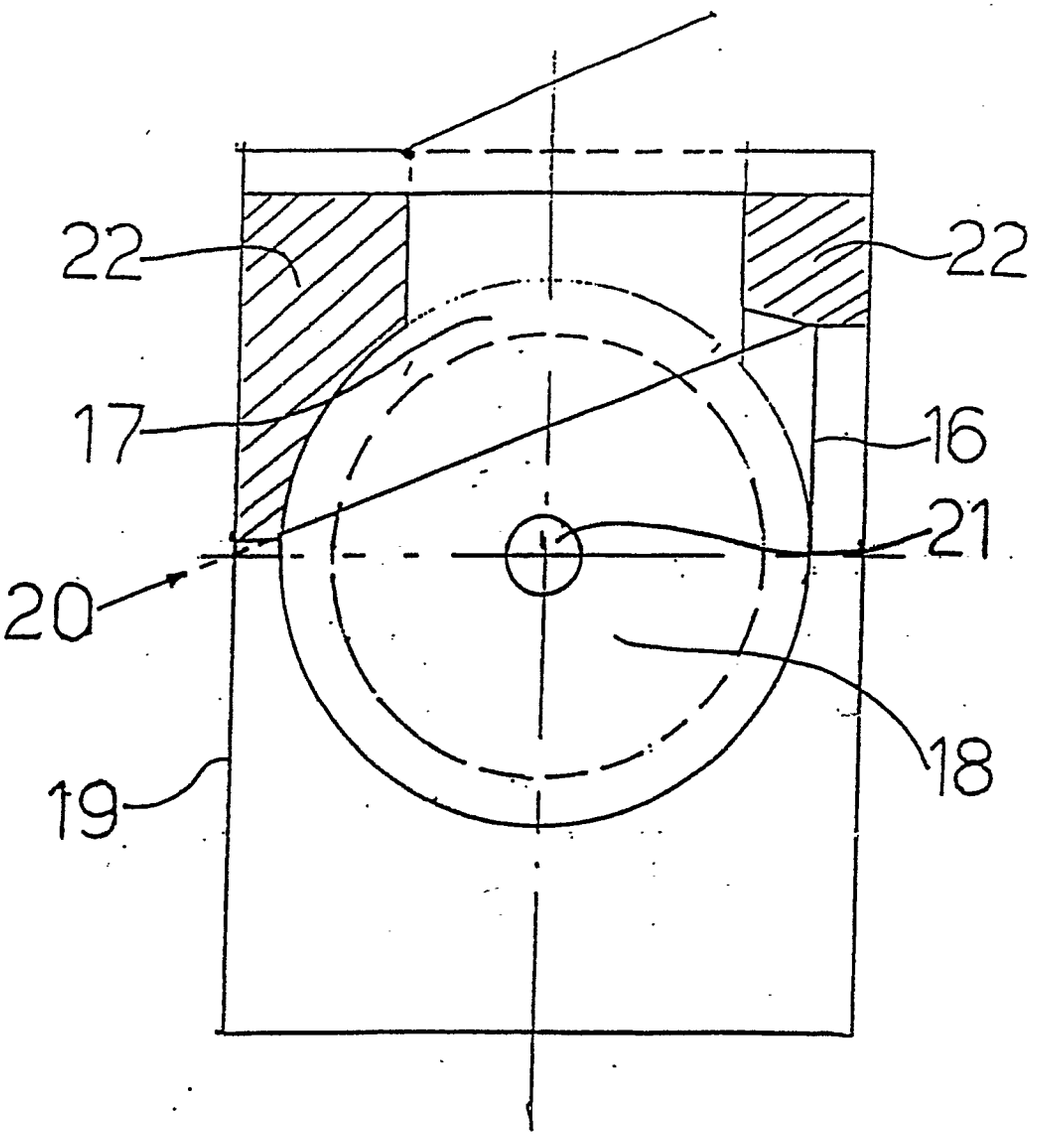


Fig.3