



(11)

**EP 1 878 377 A1**

(12)

**EUROPEAN PATENT APPLICATION**

(43) Date of publication:

**16.01.2008 Bulletin 2008/03**

(51) Int Cl.:

**A47L 15/42<sup>(2006.01)</sup>**

(21) Application number: **06425478.2**

(22) Date of filing: **10.07.2006**

(84) Designated Contracting States:

**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR  
HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI  
SK TR**

Designated Extension States:

**AL BA HR MK YU**

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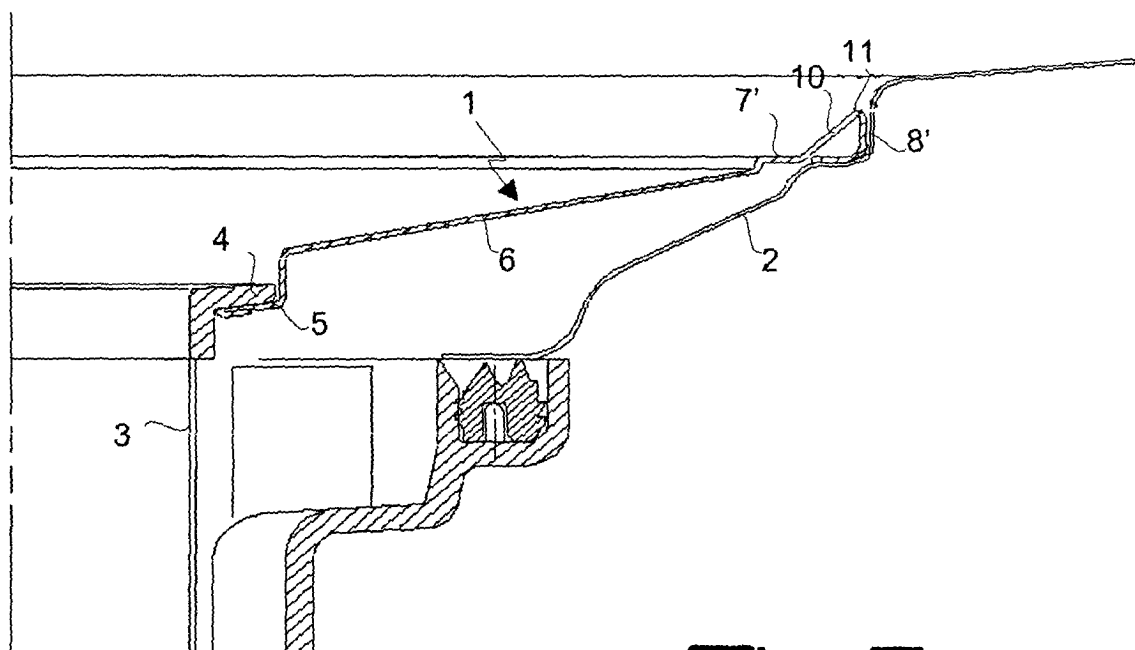
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(54) **Dishwasher filter**

(57) Dishwasher filter (1) including a flared annular portion (6) and a peripheral edge (8'), in which said edge (8') includes a wall (10) substantially inclined downwards and toward the center of the filter (1). In this way, it is

possible to prevent large residues potentially harmful for the dishwasher hydraulic circuit from accumulating at the peripheral edge (8') of the filter (1) and falling inside the underlying sump when the filter (1) is pulled out of its seat (2) during the maintenance phase.



**Fig. 2**

## Description

**[0001]** The present invention relates to a dishwasher filter for filtering the wash water and collecting the dirt residues in a second filter, and in particular to a dishwasher filter with an inclined edge.

**[0002]** It is known that dishwashers are provided with a first filter in the lower portion of the tank, usually made of steel or plastic, which is used for filtering the wash water and conveying the dirt residues to a second substantially cylindrical filter and to a sump close to which there is arranged the drain pump to drain the tank. Said first filter generally has a concave shape suitable to convey the wash water to the second filter and is housed in a corresponding recess in the tank bottom.

**[0003]** Dishwasher filters are designed to prevent large-size residues from entering the hydraulic circuit and blocking the operation of components such as the drain pump, the wash pump, the deviating valve, etc.

**[0004]** Known filters perfectly carry out said task during the operation of the machine, but have the drawback that they can cause problems during the maintenance and cleaning phase. In fact, in prior art filters the geometry of their peripheral edge is such that between the filter seat formed in the tank bottom and the peripheral edge itself there is a space where some residues can accumulate.

**[0005]** During the removal of the filter, the residues can fall inside the sump and reach the region close to the drain pump with the risk of blocking the drain pump, or they can reach the sump region where the water directed to the wash pump passes and be sucked in by the water stream with the risk of blocking the wash pump.

**[0006]** The residues that accumulate between the peripheral edge of the filter and the filter seat may be, for example, seeds, or chips of glass or ceramic resulting from the accidental breakage of glasses or plates, or other residues that are hard and potentially harmful for the pumps. In particular, the user hardly sees glass chips in case the inside of the dishwasher is wet.

**[0007]** Therefore the object of the present invention is to provide a dishwasher filter free from said drawbacks. This object is achieved by means of a dishwasher filter having a peripheral edge inclined inwards.

**[0008]** The main advantage of the dishwasher filter according to the present invention is the possibility of preventing large dirt residues from accumulating at the peripheral edge of the filter and falling inside the sump during the maintenance phase.

**[0009]** Another advantage of the dishwasher filter according to the present invention stems from the fact that, thanks to the absence of dirt residues at its edge, the dishwasher has improved hygienic conditions and the user is facilitated in cleaning the filter.

**[0010]** Further advantages and characteristics of the dishwasher filter according to the present invention will be clear to those skilled in the art from the following detailed and non-limiting description of an embodiment thereof, with reference to the annexed drawings wherein:

Fig.1 shows a partial sectional view of the tank bottom of a dishwasher and of a prior art dishwasher filter; and

Fig.2 shows a partial sectional view of the tank bottom of a dishwasher and of the dishwasher filter according to the present invention.

**[0011]** Figure 1 shows a dishwasher filter 1 according to the prior art housed in a seat 2 at the bottom of a dishwasher tank. Filter 1 is provided with a central opening in which there is tightly inserted in a substantially vertical way a hollow member 3, whose flanged end 4 abuts on a central recessed portion 5 of filter 1. Filter 1 is also provided with a flared annular portion 6 suitable to centrally convey the wash water containing dirt residues, and with a substantially flat peripheral portion 7 having a peripheral edge 8 that is rounded and bent downwards.

**[0012]** During the dishwasher operation, the peripheral edge 8 of filter 1 abuts on seat 2 so that the wash water containing the dirt residues can not pass therebetween. The rounded geometry of the peripheral edge 8 is such that between seat 2 and the edge there is a space where residues can be deposited, in such a position that upon removal of filter 1 they tend to fall over edge 8 into the underlying sump.

**[0013]** The novel aspect of the filter according to the present invention is illustrated in fig.2, that shows a narrower peripheral portion 7' and a peripheral edge 8' including a wall 10 substantially inclined downwards and toward the center of filter 1, said wall 10 being connected to the portion of edge 8' abutting on the filter seat 2 through a rounding 11 having a suitably small radius of curvature.

**[0014]** In this way, the dirt residues having such a size as to pose a problem to the hydraulic circuit of the dishwasher can not remain on edge 8', in that said position is highly unstable, and fall toward the center of filter 1 being then eliminated during the filter maintenance phase. More specifically, the inclined wall 10 of edge 8' has a slope of at least 20° and preferably 45°.

**[0015]** It is clear that the above-described and illustrated embodiment of the dishwasher filter according to the invention is just an example susceptible of various modifications. In particular, the coupling between filter 1 and seat 2 can be achieved in any known way, as long as there is retained the possibility of conveniently removing filter 1 while keeping the residues within the inclined wall 10.

## Claims

1. Dishwasher filter (1) including a flared annular portion (6) and a peripheral edge (8'), **characterized in that** said peripheral edge (8') includes a wall (10) substantially inclined downwards and toward the center of the filter (1).

2. Dishwasher filter (1) according to claim 1, **characterized in that** the slope angle of the wall (10) of the peripheral edge (8') of the filter (1) with respect to the horizontal is at least 20°.

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3. Dishwasher filter (1) according to claim 1, **characterized in that** the slope angle of the wall (10) of the peripheral edge (8') of the filter (1) with respect to the horizontal is equal to 45°.

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4. Dishwasher filter (1) according to claim 1, **characterized in that** the wall (10) of the peripheral edge (8') of the filter (1) is connected to the portion of the edge (8') abutting on the filter seat (2) through a rounding (11) having a suitably small radius of curvature.

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5. Dishwasher **characterized in that** it includes a filter according to one of the preceding claims.

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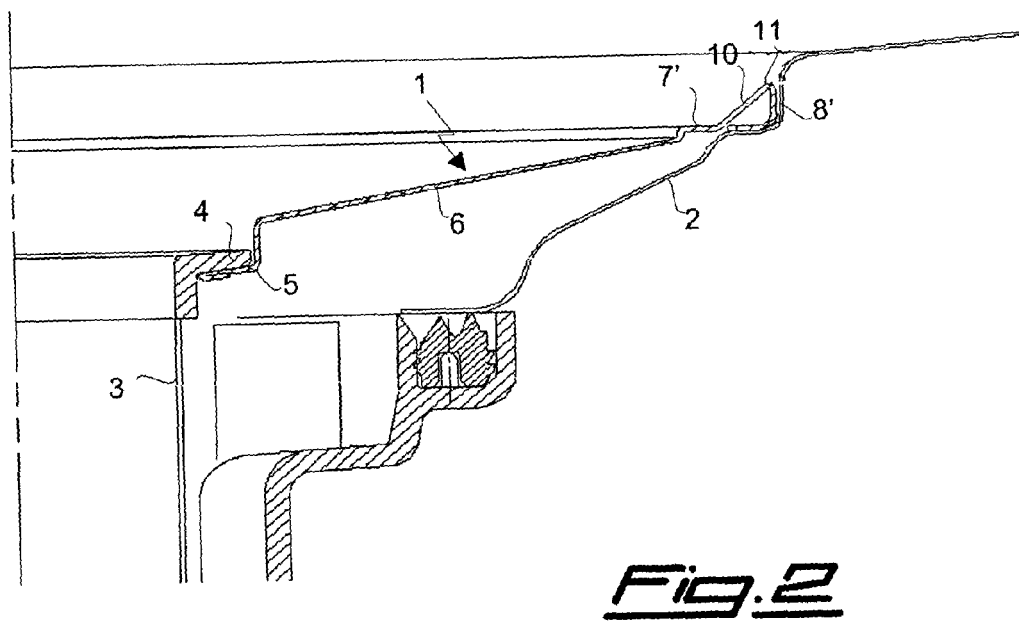
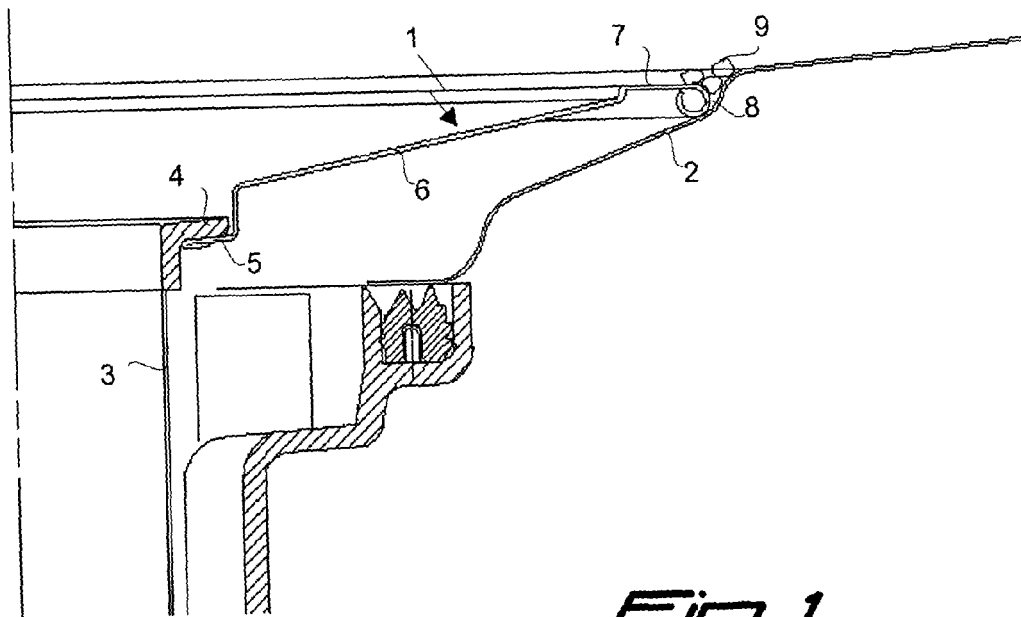
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European Patent  
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# EUROPEAN SEARCH REPORT

Application Number  
EP 06 42 5478

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	EP 0 748 607 A2 (SMEG SPA [IT]) 18 December 1996 (1996-12-18) * figures 1,3 * -----	1,5	INV. A47L15/42
			TECHNICAL FIELDS SEARCHED (IPC)
			A47L
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 14 December 2006	Examiner Courrier, Gilles
<p>CATEGORY OF CITED DOCUMENTS</p> <p>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</p> <p>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 ..... &amp; : member of the same patent family, corresponding document</p>			

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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT  
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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  
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82