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(54) **Dishwasher filter**

Geschirrspülmaschinefilter

Filtre de lave-vaisselle

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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 for example from document EP 0 748 607 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 towards 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°.
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°.
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.
5. Dishwasher **characterized in that** it includes a filter according to one of the preceding claims.

prend une paroi (10) sensiblement inclinée vers le bas et vers le centre du filtre (1).

2. Filtre de lave-vaisselle (1) selon la revendication 1, **caractérisé en ce que** l'angle de pente de la paroi (10) du bord périphérique (8') du filtre (1) par rapport à l'horizontale est d'au moins 20°.
3. Filtre de lave-vaisselle (1) selon la revendication 1, **caractérisé en ce que** l'angle de pente de la paroi (10) du bord périphérique (8') du filtre (1) par rapport à l'horizontale est égal à 45°.
4. Filtre de lave-vaisselle (1) selon la revendication 1, **caractérisé en ce que** la paroi (10) du bord périphérique (8') du filtre (1) est reliée à la partie du bord (8') butant contre le siège du filtre (2) par le biais d'un arrondi (11) ayant un rayon de courbure assez faible.
5. Lave-vaisselle **caractérisé en ce qu'il** comprend un filtre selon l'une des revendications précédentes.

Patentansprüche

1. Spülmaschinenfilter (1), mit einem konisch erweiterten Ringbereich (6) und einer peripheren Kante (8'), **dadurch gekennzeichnet, dass** die periphere Kante (8') eine Wand (10) beinhaltet, die wesentlich nach unten und zum Zentrum des Filters (1) hin geneigt ist.
2. Spülmaschinenfilter (1) nach Anspruch 1, **dadurch gekennzeichnet, dass** der Neigungswinkel der Wand (10) der peripheren Kante (8') des Filters (1) bezüglich der Horizontalen mindestens 20° beträgt.
3. Spülmaschinenfilter (1) nach Anspruch 1, **dadurch gekennzeichnet, dass** der Neigungswinkel der Wand (10) der peripheren Kante (8') des Filters (1) bezüglich der Horizontalen mindestens 45° beträgt.
4. Spülmaschinenfilter (1) nach Anspruch 1, **dadurch gekennzeichnet, dass** die Wand (10) der peripheren Kante (8') des Filters (1) mit dem Bereich der Kante (8'), welcher an den Filtersitz (2) angrenzt, mittels einer Rundung (11), welche einen geeignet kleinen Krümmungsradius aufweist, verbunden ist.
5. Spülmaschine, **dadurch gekennzeichnet, dass** diese ein Filter nach einem der vorhergehenden Ansprüche enthält.

Revendications

1. Filtre de lave-vaisselle (1) comprenant une partie annulaire évasée (6) et un bord périphérique (8'), **caractérisé en ce que** ledit bord périphérique (8') com-

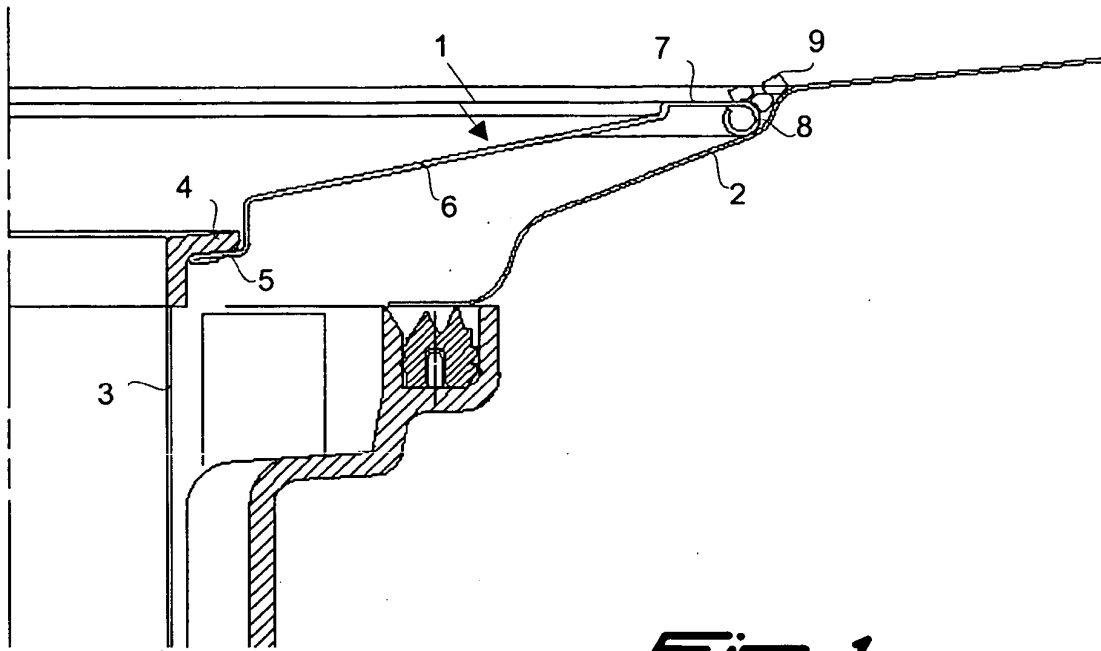


Fig. 1

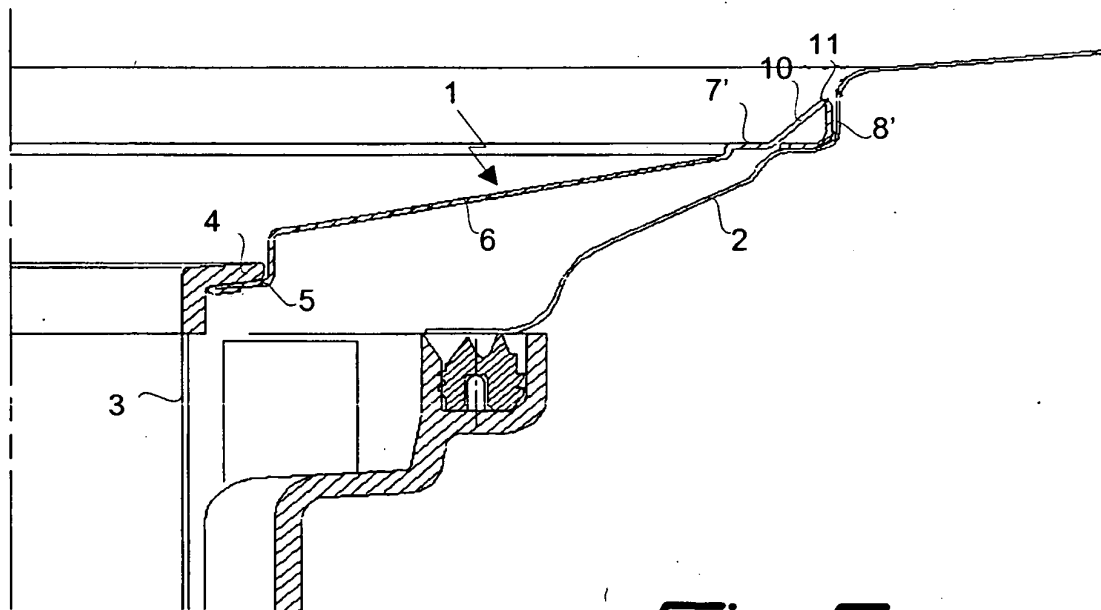


Fig. 2

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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