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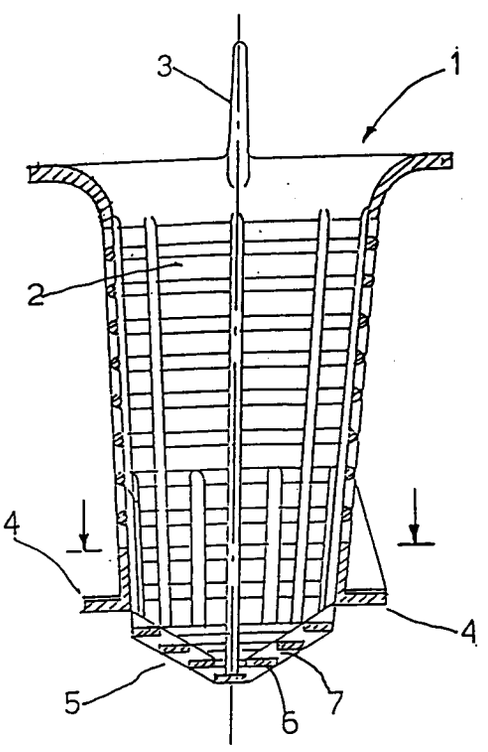
(54) Improved extractable filter for dishwashing machines.

(57) The present invention relates to a filter (1) of the extractable type for dishwashing machines, comprising a tapered body, with lateral walls, for the drainage of the washing liquid and with a bottom (5); the principle characteristic of the invention consists in the fact that the bottom (5) is provided with a plurality of openings (7) of such a shape to allow for the drainage of the washing liquid and small particles of residues contained within, whilst retaining the larger residues eventually present in the washing liquid.

FIG. 1



EP 0 505 685 A1

The present invention relates to a filter of the extractable type for dishwashing machines, comprising a tapered body, with lateral walls, for the drainage of the washing liquid and with a bottom.

Dishwashing machines are known that are provided with filters for avoiding that the residues removed from the dishes be placed in circulation with the washing liquid and deposited again on the dishes. Such filters are normally composed of two filtering elements; one being made of a fine mesh for withholding the small particles of residues, while a second filtering element of a larger mesh being extractable for cleaning purposes, has the task of withholding the larger particles, i.e. pieces of meat, tooth picks or the like, so as to inhibit that such particles go on to block the drainage pump.

This kind of second filter, made up of a large mesh for avoiding the hinderance and blockage of the drainage of the washing liquid, is substantially of cylidrical shape and made of plastic material for ease and construction economy.

It is open at its superior extremity whilst it may be closed at its inferior extremity having outlets in its cylidrical body.

The inferior section can be made closed so as to avoid large residues such as tooth picks or the like, passing through the outlets and being drawn by the drainage pump with the risk of blockage, the consequence of which being drainage hinderence, overheating of the pump's motor, which could also cause it to burn out.

This solution providing for the inferior section to be closed, brings into evidence the inconvenience that the small particles of residues are deposited on this surface, which having no outlets for allowing the direct drainage of such residues with the washing water, results in the fact that such residues can be placed in circulation during the rinsing phase and be deposited on the washed dishes.

There are known various examples of realisation for avoiding such inconveniences, that call for the utilisation of many components for constructing the filter.

In this way however, the filter becomes more complex, expensive and more difficult to clean, as when extracted it is possible that the various components become dismantled, thus causing difficulties for the user that may have problems in its reassembly.

The aim of the present invention is to indicate a filter for dishwashing machines that does not present the inconveniences of the type known.

To allow for such aims the present invention has as its object a filter of the extractable type for dishwashing machines, comprising a tapered body, with lateral walls, for the drainage of the washing liquid and with a bottom, characterised by the fact that the bottom is provided with a plurality of openings of such a shape to allow for the drainage of the washing liquid and small particles of residue contained within, whilst retaining the larger residues eventually present in the washing liquid.

Further aims and advantages of the present invention will become clear from the detailed description that follows and from the annexed drawings, supplied as a non-limiting example, wherein:

figure 1 represents a sectioned side view of a filter for dishwashing machines according to the invention;

figure 2 represents the plan view of a filter for dishwashing machines according to the invention;

figure 3 represents a partial sectioned side view of a filter for dishwashing machines according to a variant of the invention;

figure 4 represents a sectioned side view of the bottom of a filter for dishwashing machines according to a further variant of the invention.

In the figures that represent an extractable type filter for washing machines realised according to the detailes of the present invention, reference number 1 indicates the filter, realised in stamped plastic material, where outlets 2 are obtained in the cylindrical section due to a plurality of uprights, which allow for the lateral drainage of the washing water; reference number 3 represents protruding wings that allow for the extraction of the filter for cleaning purposes and its placing in a working position; reference number 4 indicates two known means for holding the filter in place during washing; with the reference number 5 the filter bottom in the form of an upturned cone is indicated, made up of a series of concentric flat rings positioned at various levels an held in place with a plurality of uprights, as in the cylindrical section, thus creating a number of outlets 7 that allow for the drainage of the washing water at the lower section.

Said concentric rings are realised in such a way the outer circumference of one ring is the same as the internal circumference of the successive ring.

In such a way the passage of large food residues is prevented and above all the passage of toothpicks and small bones is prevented that could cause a blockage of the drainage pump, whilst allowing the drainage of the water from the bottom of the filter the cleaning of such is improved and the deposits of residues on the bottom is practically reduced to zero.

The charateristics of the filter become clear form the present description and annexed drawings.

The advantages of the filter object of the present invention also result in being clear from the present description.

In particular they are represented by the fact that:

- residue deposits do not collect on the bottom of the filter that could be placed in circulation during the rinsing phases and be newly deposited on the dishes that have just been washed;
- even with rather large outlets in the bottom, the filter prevents residues from passing that could damage the drainage pump;
- the filter is realised with one single component and its construction is extremely simple and economic.

It is clear that numerous variants are possible to the filter for dishwashing machines, object of the present invention, one of which could be that represented in figure 3 where the bottom of the filter can be realised in the form of a cone with its point facing upwards.

Another variant of the filter for dishwashing machines could be that represented in figure 4 in which the level of the concentric rings of the bottom are inclined towards the bottom, so as to facilitate the passage of the particles of residues and in preventing them from depositing, thoroughly, on the concentric rings.

It is clear that numerous variants are possible by the man of the art, to the filter for dishwashing machines described as an example, without however departing from the inherent novelty principles of the invention.

Claims

1. Extractable filter for dishwashing machines, comprising a tapered body, with lateral walls, for the drainage of the washing liquid and with a bottom, characterised by the fact that the bottom is provided with a plurality of openings of such a shape to allow for the drainage of the washing liquid and small particles of residue contained within, whilst retaining the larger residues eventually present in the washing liquid.

2. Filter for dishwashing machines, according to claim 1, characterised by the fact that the bottom is realised by a plurality of flat concentric rings (6).

3. Filter for dishwashing machines, according to claim 2, characterised by the fact that the flat concentric rings (6) are positioned at various levels.

4. Filter for dishwashing machines, according to claim 3, characterised by the fact that the external circumference of a ring (6) is approximately the same as the internal circumference of the successive ring.

5. Filter for dishwashing machines, according to claim 1, characterised by the fact that the bottom (5) is shaped in the form of a cone.

6. Filter for dishwashing machines, according to claim 1, characterised by the fact that the bottom (5) is shaped in the form of an upturned cone.

7. Filter for dishwashing machines, according to claim 2, characterised by the fact that the plane of concentric rings (6) is inclined with respects the horizontal plane of the filter.

8. Filter for dishwashing machines, according to claim 1, characterised by the fact that it is realised in a single piece.

FIG. 1

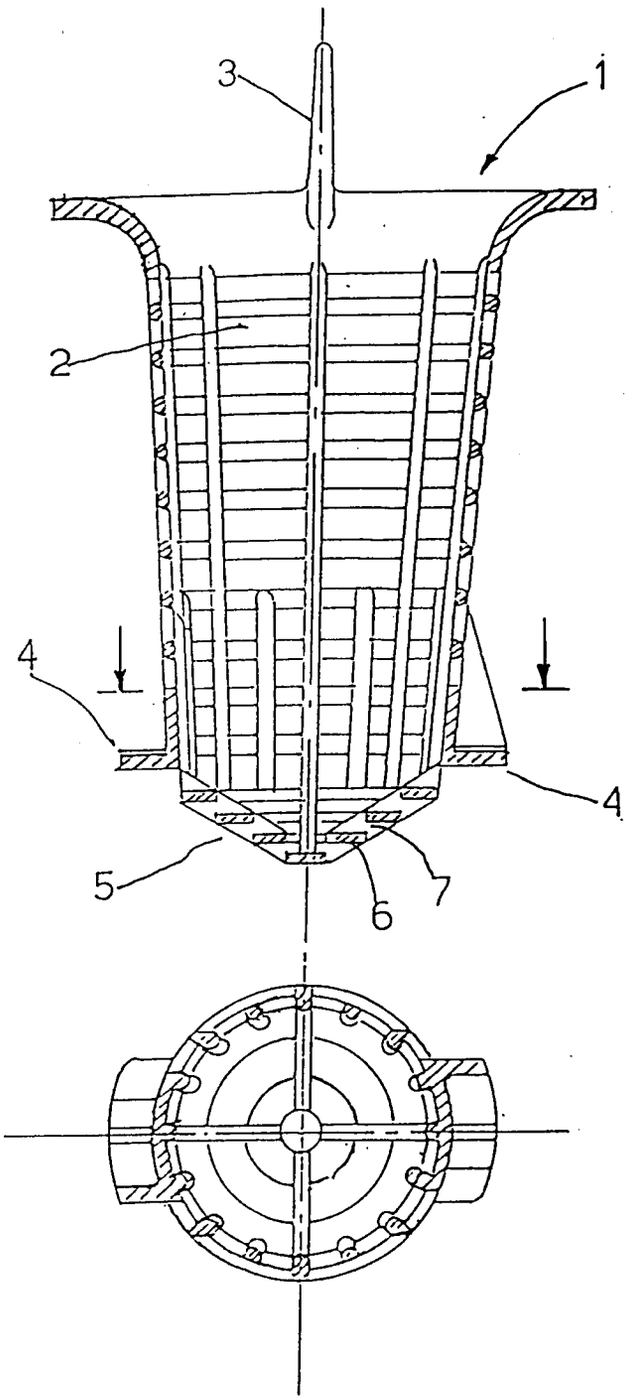
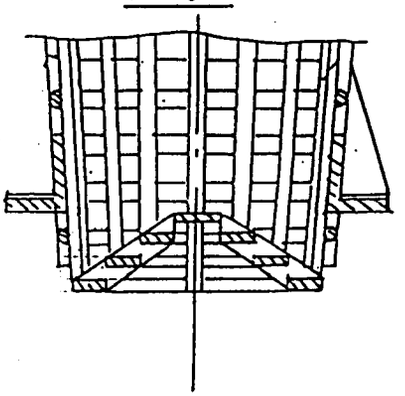


FIG. 2

FIG. 3



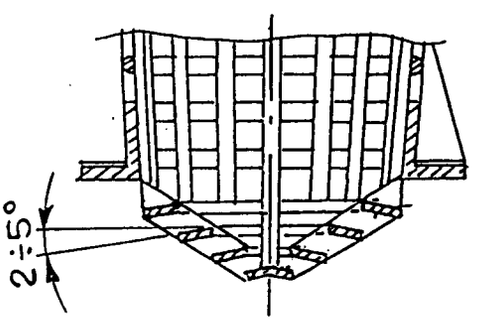


FIG. 4

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EUROPEAN SEARCH REPORT

Application Number

EP 92 10 1307

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	FR-A-2 378 493 (LICENTIA PATENT - VERWALTUNGS - GMBH) * figure 1 * ---	1-5	A47L15/42
A	FR-A-1 418 707 (M. ANDRE ET AL.) * page 3, column 1, line 35 - line 55 * * figure 11 * ---	1-5	
A	DE-B-1 158 942 (A. NOTHELFER & SÖHNE) * the whole document * ---	1-6	
A	DE-C-3 426 661 (BOSCH-SIEMENS HAUSGERÄTE GMBH) -----		

TECHNICAL FIELDS SEARCHED (Int. Cl.5)

A47L
D06F

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	09 APRIL 1992	KELLNER M.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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