International Application Published under the Patent Cooperation Treaty (PCT)

Title: A DISHWASHER AND A CUTLERY BASKET USED THEREIN

Abstract: The present invention relates to a cutlery basket (1) that is used for items such as forks, spoons, etc., to be placed in an effective washing position in dishwashers, which comprises a body (2) wherein items such as forks, spoons, etc., are disposed, a base (4) that can be moved upwards, downwards inside the body (2), side walls (5) and at least one handle (3) used for carrying the body (2), and wherein the items inside the body (2) are provided to be removed by being moved upwards after the washing.
SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, Published: GW, ML, MR, NE, SN, TD, TG). — *with international search report* (Art. 21(3))
Description

**A DISHWASHER AND A CUTLERY BASKET USED THEREIN**

[0001] The present invention relates to a cutlery basket used in dishwashers.

[0002] In dishwashers, cutlery baskets which provide items such as forks, spoons, etc. to be washed are used. Forks, spoons and knives placed in the cutlery baskets are generally taken out by being held from the end portions, which will contact the food, while being taken out after washing, and this situation causes a problem in terms of hygiene. Furthermore, injuries can happen for example, when knives are tried to be taken out by being held from their sharp and pointed ends.

[0003] In the state of the art Patent Application No US2004/0020875, an insert is described which is used in dishwashers and consists of compartments of various heights wherein silverware of different heights are placed.

[0004] In the state of the art International Patent Application No WO2008077761, a cutlery basket is described, which is used in dishwashers and which comprises a body wherein small sized items such as forks, spoons etc. are placed, and a base that carries the items placed in the body, that can be moved upwards and downwards inside the body and when moved upwards in the body pushes upwards the items thereon, providing the handle portions of the items to project outwards from the body.

[0005] The cutlery basket is generally produced by plastic injection method. During manufacturing, the cutlery basket is produced in a form that gets wider from the base upwards in order to take out the cutlery basket easily from the injection mould. Due to this angular shape of the cutlery basket, cavities are formed between the base and the body side walls when the base is moved upwards. The cutlery can get stuck in between these cavities or can fall out of the cutlery basket. This is a situation which negatively affects customer satisfaction and creates difficulties in the use of the cutlery basket.

[0006] The aim of the present invention is the realization of a cutlery basket that is used for placing items such as forks and spoons in the dishwasher, and which provides both hygienic and ergonomic conditions of use for the user.

[0007] The cutlery basket realized in order to attain the aim of the present
invention is explicated in the claims.

[0008] The cutlery basket of the present invention comprises a body wherein items such as forks and spoons are placed and a base that can be moved upwards and downwards inside the body. The cutlery basket furthermore comprises a frame and more than one pole that extend upwards from the frame. A side wall is situated between each of the two adjacent poles. An opening is disposed between the lower edge of the side wall and the frame. The cutlery basket further comprises at least one extension that curves to extend upwards from the side of the base, which covers the front of the opening when the base is at the lowermost position, and which partially surrounds the lower edge of the side wall when the base is at the uppermost position. The extension moves along the length of the opening during the upwards, downwards movement of the base inside the body. Since the extensions extend outside the body, the formation of a cavity between the base and the side walls during the upwards, downwards movement of the base is prevented. Thus, the items in the body are provided to be carried more safely by preventing the risks of falling or getting stuck. On the other hand, more hygienic conditions of use are produced by providing the user access to the handle portions of the items when the base is moved upwards in the body.

[0009] The extensions extend almost parallel to the side walls. The extensions and the base are together in the form of a tray having cavities at the corners through which the poles pass. The extensions almost entirely cover the front of the opening when the base is at the lowermost position inside the body. By the base being moved upwards inside the body, the extensions also move upwards along the length of the opening to at least partially surround the side walls.

[0010] The height of the side walls is quite lower than the height of the poles. When the base is at the lowermost position, the distance remaining between the side walls and the base is equal to the height of the opening. The height of the opening is sized such that the movement of the extensions is not obstructed as the base is moved upwards and access of the user to the portions of items remaining inside the body is facilitated.
In an embodiment of the present invention, the edges of the side walls facing the opening are bent towards inside the body. At least some portion of the extension is curved to match the bent configuration of the side wall. Consequently, the assembly of the base into the body is facilitated during production.

By means of the present invention, the user is enabled to contact the handle portions of the items remaining inside the body during the loading and unloading of the items such as forks and spoons in the cutlery basket, thus hygienic conditions of use are provided. Furthermore, problems such as falling of the items are prevented by hindering the formation of cavity between the base and the side walls while moving the base upwards, downwards.

The cutlery basket realized in order to attain the aim of the present invention is illustrated in the attached figures, where:

Figure 1 - is the perspective view of a cutlery basket when the base is in the lowermost position.

Figure 2 - is the perspective view of a cutlery basket when the base is in the uppermost position.

Figure 3 - is the exploded perspective view of a cutlery basket.

Figure 4 - is the cross sectional view of the base, the side wall, the extension and the frame when the base is in the lowermost position relating to an embodiment of the present invention.

Figure 5 - is cross sectional view of the base, the side wall, the extension and the frame when in the base is in the uppermost position, relating to an embodiment of the present invention.

The elements illustrated in the figures are numbered as follows:

1. Cutlery basket
2. Body
3. Handle
4. Base
5. Side wall
6. Pole
7. Opening
The cutlery basket (1) is used in dishwashers for the purpose of placing items such as forks and spoons in an effective washing position.

The cutlery basket (1) comprises a body (2) wherein items such as forks, spoons, etc. are placed, a base (4) that can be moved upwards, downwards inside the body (2) and at least one handle (3) used for carrying the body (2).

The cutlery basket (1) of the present invention comprises,

- a frame (9),
- more than one pole (6) that extend upwards from the frame (9),
- side walls (5) disposed between each two adjacent poles (6),
- an opening (7) situated between the lower edge of the side wall (5) and the frame (9) and
- at least one extension (8) that curves to extend upwards from the side of the base (4), which covers front of the opening (7) when the base (4) is at the lowermost position, and which partially surrounds the lower edge of the side wall (5) when the base (4) is at the uppermost position.

After the washing process, the user prefers to unload the items from the cutlery basket (1) by holding from the handle portions remaining inside the body (2), without holding from the used (contacting foods) portions of items, for example not from the pointed and sharp ends of items such as knives, in order to provide hygienic and safe conditions of use. Therefore, the user provides the items on the base (4) to move upwards together with the base (4) by moving the base (4) upwards inside the body (2). Thus, the user can take the items out from the body (2) by bringing them to the position where the portions remaining inside the body (2) can be easily accessed.

During the upwards movement of the base (4), the extensions (8) also move upwards together with the base (4) along the opening (7). Since the extensions (8) extend out of the body (2) by passing through the opening (7), the extensions (8) move to at least partially surround the lower edges
of the side walls (5) during the upwards movement of the base (4). Consequently, during the upwards movement of the base (4), formation of cavities between the side walls (5) and the base (4) is prevented due to outwardly curved shape of the side walls (5). Accordingly, the risk of items placed in the body (2) falling or getting stuck in cavities that can be formed between the base (4) and the side walls (5) is prevented. By means of the extensions (8), the items in the body (2) are provided to be carried more safely during the upwards movement of the base (4). Consequently, more convenient and ergonomic conditions of use are created in terms of the user.

[0025] The side walls (5), disposed between the poles (6), start from the upper ends of the poles (6) and the opening (7) remains between the base (4) and itself. In other words, the height of the side walls (5) is shorter than the height of the poles (6). The height of the opening (7) situated between the lower edge of the side wall (5) and the frame (9) is almost equal to the distance the base (4) moves in the vertical. The height of the opening (7) is preferably sized such that access to the handle portions of the items in the body (2) is facilitated when the user moves the base (4).

[0026] The extensions (8) extend almost parallel to the side walls (5). The extensions (8), which are in the position to almost entirely cover the opening (7) when the base (4) is at the lowermost position, move upwards as the base (4) is moved upwards and project over the side walls (5) in such a way that the side walls (5) are at least partially surrounded. The extensions (8) serve as a wall that almost entirely covers the front of the opening (7) when the base (4) is at the lowermost position. As the base (4) is moved upwards, the extensions (8) also move to at least partially surround the lower edges of the side walls (5) such that the movement of the base (4) is not obstructed. Consequently, the items in the body (2) the portions of which remain inside the body (2) are provided to be almost entirely surrounded by the side walls (5) and the extensions (8) when the base (4) is at the lowermost and uppermost positions and thus are prevented from falling out of the body (2).

[0027] In another embodiment of the present invention, the lower edges of the
side wall (5) are bent towards inside the body (2). At least some portions of the extensions (8) are curved to match the bent configuration of the side wall (5). Assembly of the base (4) inside the body (2) is facilitated by the mutually matching configurations of the extension (8) and the side wall (5).

[0028] In another embodiment of the present invention, the extension (8) has a curvilinear form. Thus, the extensions (8) are provided to surround the side walls (5) better during the upwards, downwards movement of the base (4) inside the body (2).

[0029] In another embodiment of the present invention, the extension (8) has an inclined and stepped form. Thus, production of the cutlery basket (1) is facilitated.

[0030] The cutlery basket (1) furthermore comprises one or more separators (10) which divide the inside of the body (2) into compartments, situated on the base (4) and which can move upwards and downwards together with the base (4). The separators (10) increase the washing efficiency by providing the cutlery placed into the body (2) to be arranged in a more balanced manner in the body (2). Furthermore, by means of the separators (10), the strength of the base (4) is increased and the items loaded thereon are provided to be carried in a more secure manner.

[0031] By means of the present invention, a cutlery basket (1) that is used for placing items such as forks and spoons into the dishwasher, and that provides hygienic conditions of use for the user is obtained. Moreover, adversities such as the items getting stuck or falling between the base (4) and the side walls (5) while the base (4) is moved upwards, downwards inside the body (2) are prevented.

[0032] It is to be understood that the present invention is not limited to the embodiments disclosed above and a person skilled in the art can easily introduce different embodiments. These should be considered within the scope of the protection postulated by the claims of the present invention.
Claims

1. A cutlery basket (1) comprising a body (2) wherein items such as forks, spoons, etc. are placed, a base (4) that can be moved upwards, downwards inside the body (2) and at least one handle (3) for carrying the body (2), and characterized by
   - a frame (9),
   - more than one pole (6) that extend upwards from the frame (9),
   - side walls (5) disposed between each two adjacent poles (6),
   - an opening (7) situated between the lower edge of the side wall (5) and the frame (9) and
   - at least one extension (8) that curves to extend upwards from the side of the base (4), which covers front of the opening (7) when the base (4) is at the lowermost position, and which partially surrounds the lower edge of the side wall (5) when the base (4) is at the uppermost position.

2. A cutlery basket (1) as in Claim 1, characterized by side walls (5), the lower edges of which are bent towards inside the body (2).

3. A cutlery basket (1) as in Claim 1 or 2, characterized by the extension (8) at least some portion of which has curved form to match the bent configuration of the side wall (5).

4. A cutlery basket (1) as in any one of the above Claims, characterized by the opening (7), the height of which is almost equal to the distance the base (4) moves in the vertical.

5. A cutlery basket (1) as in any one of the above Claims, characterized by the extension (8) having a curvilinear form.

6. A cutlery basket (1) as in any one of the Claims 1 to 4, characterized by the extension (8) having an inclined and stepped form.

7. A dishwasher characterized by the cutlery basket (1) as in any one of the above Claims.
**A. CLASSIFICATION OF SUBJECT MATTER**

INV. A47L15/50

ADD. 

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

A47L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where approximate, of the relevant passages</th>
<th>Relevant to claim No</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>DE 90 16 743 U1 (BAUKNECHT HAUSGERATE GMBH) 28 February 1991 (1991-02-28) the whole document</td>
<td>1-7</td>
</tr>
<tr>
<td>A</td>
<td>EP 1 262 140 A1 (MEDER WOLFRAM [DE]) 4 December 2002 (2002-12-04) page 2 - page 4; figures 1-3</td>
<td>1-7</td>
</tr>
</tbody>
</table>

---

Further documents are listed in the continuation of Box C. X See patent family annex

* Special categories of cited documents

**A** document defining the general state of the art which is not considered to be of particular relevance

**E** earlier document but published on or after the international filing date

**L** document which may throw doubts on novelty of claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

**O** document referring to an oral disclosure, use, exhibition or other means

**P** document published prior to the international filing date but later than the priority date claimed

---

Date of the actual completion of the international search: 7 September 2010

Date of mailing of the international search report: 15/09/2010

Name and mailing address of the ISA/Authorized officer

European Patent Office, P B 5818 Patentlaan 2 NL - 2280 HV Rijswijk

Tel (+31-70) 340-2040, Fax (+31-70) 340-3016

Richmond, Sarah
<table>
<thead>
<tr>
<th>Patent document cited in search report</th>
<th>Publication date</th>
<th>Patent family member(s)</th>
<th>Publication date</th>
</tr>
</thead>
<tbody>
<tr>
<td>WO 2008077761 A1</td>
<td>03-07-2008</td>
<td>AT 462348 T</td>
<td>15-04-2010</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EP 2096980 A1</td>
<td>09-09-2009</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ES 2342504 T3</td>
<td>07-07-2010</td>
</tr>
<tr>
<td>DE 9016743 U1</td>
<td>28-02-1991</td>
<td>NONE</td>
<td></td>
</tr>
<tr>
<td>EP 1262140 A1</td>
<td>04-12-2002</td>
<td>DE 10126535 C1</td>
<td>21-11-2002</td>
</tr>
</tbody>
</table>