



(11) **EP 3 282 920 B1**

(12) **EUROPEAN PATENT SPECIFICATION**

(45) Date of publication and mention
of the grant of the patent:
13.11.2019 Bulletin 2019/46

(51) Int Cl.:
A47L 15/50^(2006.01) A47L 15/24^(2006.01)

(21) Application number: **16780379.0**

(86) International application number:
PCT/SE2016/050309

(22) Date of filing: **12.04.2016**

(87) International publication number:
WO 2016/167709 (20.10.2016 Gazette 2016/42)

(54) **DISHWASHING ACCESSORY FOR HOLDING A DISHWASHER BASKET INCLINED IN RELATION TO THE HORIZONTAL AND A DISHWASHING METHOD**

GESCHIRRSPÜLZUBEHÖR ZUM HALTEN EINES SPÜLMASCHINENKORBS, DER IM VERGLEICH ZUR HORIZONTALEN GENEIGT IST, UND GESCHIRRSPÜLVERFAHREN

ACCESSOIRE POUR LAVE-VAISSELLE PERMETTANT DE MAINTENIR UN PANIER DE LAVE-VAISSELLE INCLINÉ PAR RAPPORT À L'HORIZONTALE ET PROCÉDÉ DE LAVAGE DE VAISSELLE

(84) Designated Contracting States:
**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO
PL PT RO RS SE SI SK SM TR**

(72) Inventor: **TORSSELL, Carl Gösta**
182 53 Danderyd (SE)

(30) Priority: **15.04.2015 SE 1550450**

(74) Representative: **Noréns Patentbyrå AB**
Box 10198
100 55 Stockholm (SE)

(43) Date of publication of application:
21.02.2018 Bulletin 2018/08

(56) References cited:
EP-A1- 2 138 085 DE-A1- 19 708 805
DE-U1-202010 006 233 JP-A- 2004 174 140
KR-A- 20080 044 078 US-A1- 2008 035 186
US-A1- 2014 021 153 US-A1- 2014 110 362
US-A1- 2014 137 905 US-B1- 6 367 636

(73) Proprietor: **Diskomat AB**
117 43 Stockholm (SE)

Note: Within nine months of the publication of the mention of the grant of the European patent in the European Patent Bulletin, any person may give notice to the European Patent Office of opposition to that patent, in accordance with the Implementing Regulations. Notice of opposition shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European Patent Convention).

EP 3 282 920 B1

Description

[0001] The present invention relates to a dishwasher accessory (that is, an accessory for a dishwasher) and a dishwashing method (namely, a method for operating a dishwasher using an accessory of the said type). In particular, the invention relates to such an accessory and method allowing dishes, notably glasses and/or cups, to be washed while inclined in relation to the horizontal.

[0002] When using a dishwasher to dish objects with horizontal surfaces in which water can become trapped, such as glasses and cups that are dished upside down, there is a problem of such horizontal surfaces not being properly cleaned. Since water is trapped on the surface as a result of each individual wet step of the dishwashing program, dirt is not rinsed off such surfaces as effectively as from other surfaces, such as the side walls of a tumbler glass. Furthermore, dishing water or contaminated rinsing water is typically trapped on such horizontal surfaces even after the final program step, such as a drying step. When thereafter removing for instance the glasses or cups from the dishwasher, the soiled water risks staining the better cleaned surfaces of the dished object.

[0003] Several attempts have been made to solve these problems.

[0004] For instance, DE 19708805 A1 proposes to introduce a supporting structure for glasses in a dishwasher arranged to set a suitable angle for each glass. This allows for drainage of the trapped water on the glasses.

[0005] EP 1518490 A1 proposes to place each glass in a respective inclined pocket in the dishwasher.

[0006] US 20080149149 A1 proposes to achieve an inclination of glasses by positioning them using a special holder.

[0007] For industrial kitchen use, dishwashers typically accept dishwasher baskets of standard shape and size. For instance, US 3482707 A describes such a basket.

[0008] DE 20 2010 006233 U1 discloses a dishwasher accessory arranged to accommodate baskets of non-standard sizes in a dishwasher.

[0009] It would be desirable to be able to solve the above discussed problems with trapped water and soiled dishes efficiently in the context of industrial dishwashers, since such dishwashers are frequently used to handle large amounts of glasses, cups and the like, whereby such soiling constitutes a large problem.

[0010] The present invention solves this problem, by introducing an additional part used in the dishwasher, in the form of an accessory as detailed hereinbelow.

[0011] Hence, the invention relates to a dishwasher accessory, which accessory is adapted for being arranged below a dishwasher basket and to support the basket inside the dishwasher and during washing operation of the dishwasher, which dishwasher accessory is characterised in that the accessory is arranged so that a main dish supporting plane of the basket, when the basket is supported by the accessory inside the dishwasher and during washing operation of the dishwasher, is in-

clined in relation to the horizontal, and in that the accessory comprises an open structure so as to allow dishing and/or rinsing water from below the accessory to reach dishes arranged in the basket.

[0012] The invention also relates to a method for operating a dishwasher, which method is characterised in that the method comprises the following steps: a) placing a dishwasher basket on a dishwasher accessory in the dishwasher, which accessory comprises an open structure and is arranged so that a main dish supporting plane of the basket, when the basket is supported by the accessory inside the dishwasher and during washing operation of the dishwasher, is inclined in relation to the horizontal when the basket is supported by the accessory; b) operating the dishwasher to wash dishes arranged in the basket in turn supported by the accessory, whereby dishing and/or rinsing water from below the accessory reaches the said dishes past said open structure; and c) removing the dishes from the basket.

[0013] In the following, the invention will be described in detail, with reference to exemplifying embodiments of the invention and to the enclosed drawings, in which:

Figure 1 is a perspective view of a dishwashing accessory according to a first preferred embodiment of the invention;

Figure 2 is the same as figure 1, but also showing a dishwasher basket;

Figure 3 is a perspective view of a dishwashing accessory according to a second preferred embodiment of the invention;

Figure 4 is a simplified view of the dishwashing accessory shown in figures 1 and 2, when used in a tunnel- or flight conveyor type dishwasher; and

Figure 5 is a flowchart of a method according to the present invention.

[0014] The figures share reference numerals for same parts.

[0015] Hence, figures 1 and 2 show a dishwasher accessory 100 according to the invention, in isolation. Figure 4 illustrates the accessory 100 in an operation position in a dishwasher 400, together with a dishwasher basket 300. The dishwasher 400 is preferably of tunnel or flight conveyor type, through which the accessory 100 is transported during operation of the dishwasher 400. However, it is realized that the accessory 100 is also useful with other types of dishwashers together with dishwasher baskets, such as dishwashers in which such a basket is stationary during operation of the dishwasher.

[0016] The basket 300 is also illustrated schematically in figure 2, in the same operation position as shown in figure 4. Preferably, the basket 300 is of standard type, preferably the standard type which is 50 x 50 cm of size. Further, according to the invention, the basket 300 is stackable, featuring a longitudinal indentation 302 (generally indicated in figure 2) along at least one of its lower side edges 301 used for fixing an upper basket in a lower

basket when two such baskets are stacked in on top of and in the other.

[0017] In the said operation position, the accessory 100 is arranged below the dishwasher basket 300, supporting the basket 300 from below, inside the dishwasher 400 and during washing operation of the dishwasher 400.

[0018] According to the invention, the accessory 100 is arranged so that a main dish supporting plane 303 of the basket 300, when the basket 300 is supported by the accessory 100 inside the dishwasher 400 and during washing operation of the dishwasher 400, is inclined in relation to the horizontal H (see figure 2). The angle of inclination A is also illustrated.

[0019] Furthermore according to the invention, the accessory 100 comprises an open structure 116, arranged to allow dishing and/or rinsing water 401 from below the accessory 100 to reach dishes 310 arranged in the basket 300 (see figures 2 and 4). It is realized that the open structure 116 also allows rinsing water from below to reach the dishes 310 in the corresponding way.

[0020] Such an accessory 100 can hence be used together with a standard dishwasher 400 and with a standard dishwasher basket 300 during operation of the dishwasher 400 which operation is normal as such, apart from the addition of the accessory 100, and can provide an angled arrangement of the glasses 310. This angling leads to the bottoms of the glasses 310, facing upwards but at an angle, being substantially emptied of water after each individual dishing operation step of the dishwasher 400, with the result that the bottoms of the glasses 310 do not accommodate any soiled water after finished dishing operation. This is particularly useful with respect to rinsing, since the amount of rinsing water used in a dishwasher 400 during a normal dishing program is typically substantially less than the amount of dishing water. Also, during a drying step, the bottoms of the glasses 310 will have time to dry out before the glasses 310 cool down, leaving the glasses clean and dry for subsequent storage or use.

[0021] In a preferred embodiment, the open structure 116 is arranged so that a water jet originating from below the accessory 100 in the operating position can reach the basket 300, and in particular dishes 310 located in the basket. This may be accomplished by through holes of the open structure 116 being aligned with corresponding through holes in the basket 300, so that an upwards directed water jet originating from the dishwasher 400 below the accessory 100 can shoot straight through the said through holes.

[0022] The angle A is preferably at least 7°, preferably at least 9°, and preferably at the most 18°, preferably at the most 10°. Most preferably, the angle A is about 9.5°.

[0023] Preferably, and as shown in the figures, the accessory comprises a first support part 101, arranged to support a first part 304 of the basket 300, as well as a second side wall 102 in turn comprising a second support part 103 arranged to support a second part 305 of the basket 300 located on the opposite side of a bottom 306

of the basket 300. Preferably, the bottom 306 is parallel to said main plane 303. The basket 300 is thus supported at two or more locations by the accessory 100, preferably on two elongated and preferably substantially parallel elongated support locations on either side of the said bottom 306 (in figure 2 a near and a distant longitudinal edge, respectively, of the basket 300).

[0024] Moreover, the second side wall 102 is rigidly connected to the first support part 101, whereby the support parts 101, 103 are rigidly connected one to the other.

[0025] Also, the second support part 103 is arranged higher than the first support part 101 when the basket 300 is supported on top of the accessory 100 inside the dishwasher 400, in other words in the operation position illustrated in figures 2 and 4, resulting in the said inclination angle A of the basket 300 in relation to the horizontal H.

[0026] As illustrated in the figures 1 and 2, there is preferably only one side wall (namely the second side wall 102) on the accessory 100 protruding up from a bottom 109 of the accessory (described below). However, figure 3 illustrates an alternative embodiment of an accessory 200 featuring also a first side wall 204, arranged adjacent to the first support part 201. Alternatively, the first support part 201 can be an integrated part of the first side wall 204, in that case offering an engagement similar to the second support part 203 with a stackability indentation of the basket 300. However, in figure 3 the first side wall 204 forms a shoulder against which the basket 300 first part 304 leans when resting on the first support part 201 surface and limiting the horizontal motion of the basket away from the second side wall 202. Apart from the first side wall 204, all reference numerals are the same in figure 3 as in figure 1, however with a "2" instead of a "1" as the first digit. Everything which is said herein about the accessory 100 generally also applies to the accessory 200, as applicable.

[0027] A construction as shown either in figure 1 or 3 provides a particularly simple accessory design, which can easily be made sturdy and not interfering negatively with the dishing process, as described below.

[0028] Preferably, the second side wall 102 comprises at least one through hole 105, arranged to allow drying air 402 to pass through the through hole 105 from the side and up to the basket 300 from below when the basket 300 is in the said operating position, supported on the accessory in the dishwasher 400 during operation thereof. It is preferred that the second side wall 102 comprises a beam structure with several through holes between the beams, so that at least 50% of the second side wall 102 surface is covered by such through holes 105. This guarantees that adequate drying can be achieved in a conventional dishwasher 400, even when the basket 300 is arranged on the accessory 100 during dishing and drying. Also, drying of the dishes 310 is quicker outside of the dishwasher, as applicable, after finished dishwashing program.

[0029] According to the invention the accessory 100 is

arranged with an engagement means arranged to engage with the basket 300 so as to fix the horizontal position of the basket 300 when in said operating position, supported by the accessory 100 in the dishwasher. This can be accomplished in different ways, of which figure 1 and 3 represent two preferred alternatives.

[0030] In figures 1 and 3, the second support part 103 is arranged to engage with the second part 305 of the basket 300, so as to achieve said horizontal fixing of the basket 300. Preferably, this is achieved by the second support part 103 comprising a flange 114, arranged to engage with an opening in the bottom 306 side of the basket 300. Preferably, the opening is the above discussed longitudinal indentation 302 arranged as a part of the basket 300 for stackability. In this case, the first support 101 part may be a flat surface on which a subpart of said first part 304 of the basket 300, in the form of a bottom side edge of the said first part, is arranged to rest. In other words, in this case there is no engagement at the first support part 101, limiting the horizontal movement of the basket 300. Preferably, the horizontal movement of the basket 300 in the said operation position is instead fixed only by the engagement between the basket 300 and the second support part 103. This is preferred since it provides a particularly low-profile and simple yet sturdy construction of the accessory.

[0031] However, and as introduced above, in figure 3 the first side wall 204 features either a flange with corresponding function as the flange 114, engaging with a corresponding longitudinal indentation in the basket 300, or a shoulder against which the part 304 can rest. Either one of these two latter options provides for a particularly secure engagement between the basket 300 and the accessory 200 during dishwashing operation.

[0032] According to a preferred embodiment, the accessory 100 further comprises a third 106 and a fourth 107 side wall, each running from the first support part 101, or the first side wall 104, to the second side wall 102 on either side of the accessory 100. Then, at least one of said third 106 and fourth 107 side walls, preferably both, is arranged to allow drying air 402 to pass the side wall 106, 107 in question from the side and up to the basket 300 from below when the basket 300 is supported, in the said operating position on the accessory 100 in the dishwasher 400, during operation thereof.

[0033] It is particularly preferred that the said second 102, third 106 and fourth 107 side walls, together with a first side wall 104 opposite to the second side wall 102, form a rigid rectangle, preferably substantially the same size and preferably also shape as the basket 300 as seen in the said main dish supporting plane 303 of the basket 300. It is realized that both accessories 100, 200 feature a respective first side wall 104, 204, the difference being that the side wall 204 of accessory 200 comprises the above described engagement means for the basket 300 and protrudes a certain distance above the structure 116 when in the said operation position.

[0034] According to a preferred embodiment, the said

passing of drying air 402 past the side wall 106 and/or 107 is achieved by the side wall 106, 107 in question not running up to the top of the second side wall 102, but joining the second side wall 102 some ways down from the latter's top. This way, a space 108 is formed in the side wall 106, 107 in question, when the basket 300 is in said operating position, between the bottom 306 of the basket 300 and the top of the side wall 106, 107 in question. However, it would also, or in addition thereto, be possible to provide the side wall 106, 107 with through holes similar to the through holes 105, for instance using beams. However, low profile side walls 106, 107 as illustrated in figures 1-3 provide a sturdy, low-weight construction that still provides adequate functionality.

[0035] Preferably, the third 106 and fourth 107 side walls are arranged so as to define a hollow space between them and between a support, such as an internal transport surface of the dishwasher 400 on which the accessory 100 rests, and the bottom 306 of the basket 300 when the basket 300 is supported on the accessory 100 in the said operating position. The hollow space is hence formed due to the inclination of the basket 300 (the bottom 306 forming the ceiling of the hollow space) and due to the existence of the third 106 and fourth 107 side walls, together with the second side wall 102. This provides better drying of the dishes 310.

[0036] According to a preferred embodiment, a bottom part 109 of the accessory rigidly connects the first support part 101 and/or the first side wall 104 to the second support part 103 and/or the second side wall 102. In this case, it is preferred that the said bottom part 109 is perforated so as to allow dishing and/or rinsing water, emitted from the dishwasher 400 during operation thereof, to pass through the bottom part 109, from below the accessory 100 when supporting the basket 300 in the dishwasher 400 in said operating position during operation of the dishwasher 400. Hence, the bottom part 109 comprises the above-discussed open structure 116.

[0037] Such a perforated bottom part 109 structure can be achieved in various ways, of which one preferred alternative is illustrated in figures 1-3. Therein, the said bottom part 109 comprises beams 110, arranged to engage with the driving mechanism of the dishwasher 400, in particular in case the dishwasher 400 a tunnel- or flight conveyor type dishwasher, for driving the accessory 100, and as a result also the basket 300, through such dishwasher during operation thereof.

[0038] The said perforations may then comprise through holes 112 separating said beams 110 from each other and/or the side walls 102, 104, 106, 107. Preferably, the beams 110 themselves also comprise through holes 113 arranged to allow the said passing of dishing and/or rinsing water there through.

[0039] Preferably, the said bottom part 109 is substantially built up from a peripheral frame, such as the side walls 102, 104, 106, 107 as described above, and a plurality of beams, such as beams 110, in turn being built up from sub beams 111, and arranged inside the said

peripheral frame. In this case, the said beams 110, 111 are preferably arranged with rectangular cross-sections, preferably without any shoulders or dead ends, so that no pockets are formed by said beams 110, 111 of the bottom part 109 in which pockets water can be trapped when the accessory 100 is oriented with the said bottom part down 109, in the said operation position. It is realized that many different beam 110, 111 patterns are possible, even when the main beams 110 are arranged to interact with standard driving dishwasher 400 mechanisms, and that the pattern illustrated in figures 1-3 is only an example. It is further realized that the side walls 102, 104, 106, 107 may also comprise respective beams 110 for engaging with the driving mechanism of the dishwasher 400.

[0040] The through holes 112, 113 not only admit access to the dishes 310 of dishwasher, they also help in the provision of adequate rinsing and drying in the dishwasher 400.

[0041] Preferably, the accessory 100 is formed as one single homogenous material body, preferably made of plastic material, such as a thermoplastic material. For instance, polypropylene may be used, such as polypropylene marketed under the name BE375MO.

[0042] Figure 5 illustrates the method steps of a method for operating a dishwasher, in particular an industrial dishwasher in a restaurant, catering kitchen or the like, preferably a dishwasher of tunnel- or flight conveyor type.

[0043] In a first step, a dishwasher basket 300 of the above described type is placed on and supported by a dishwasher accessory 100 or 200 of the above described type in the dishwasher 400, whereby the basket 300 is hence arranged in the above described operating position, in which it is inclined at an angle A in relation to the horizontal H. Before, as a part of, or after the first step, dishes 310 in the form of glasses, cups or the like are arranged upside down in the basket 300.

[0044] In a second step, the dishwasher 4 is operated to wash the dishes 310 arranged in the basket 300 supported by the accessory 100 or 200, whereby dishing and/or rinsing water from below the accessory 100 or 200 reaches the dishes 310 past said open structure 116 in said bottom 109.

[0045] Preferably, the dishwasher 400 is a tunnel- or flight conveyor type dishwasher, and during the second step the basket 300 is moved through the dishwasher 400 by the existing, conventional dishwasher basket driving means engaging with and operating on the beams 110 comprised in the accessory 100, 200.

[0046] Further preferably, the dishes 310 are dried in the second step, such by a final step of the dishing program operated by the dishwasher 400, while the basket 300 is still supported by the accessory and before the dishes 310 are removed from the basket 300.

[0047] Then, in a third step, the dishes 310 are removed from the basket 300, and for instance put in a storage shelf or used.

[0048] It is realized that what has been described above regarding the operation of the dishwasher 400 and

the resulting events in relation to the accessory 100, 200 and/or the basket 300, such as the drying air 402 entering through the various openings and through holes described above, also apply to the method according to the invention.

[0049] Above, preferred embodiments have been described. However, it is apparent to the skilled person that many modifications may be made to the described embodiments without departing from the basic idea of the invention.

[0050] In particular, it is realized that the accessories 100, 200 illustrated in figures 1-3 merely constitute preferred exemplifying embodiments of accessories according to the present invention, and that the detailed design of their various parts can be varied in many ways without significantly deteriorating the operating functionality of the accessory 100, 200.

[0051] One such example is that a handle 115 may or may not be included as one of the through holes 105 of the second side wall 102.

[0052] Hence, the invention is not to be limited to the described embodiments, but is variable within the scope of the enclosed claims.

Claims

1. Dishwasher (400) accessory (100;200), which accessory is adapted for being arranged below a dishwasher basket (300) and to support the basket inside the dishwasher and during washing operation of the dishwasher, wherein the accessory comprises a first support part (101;201), arranged to support a first part (304) of the basket, and a second support part (103;203), arranged to support a second part (305) of the basket located on the opposite side of a bottom (306) of the basket, wherein the second support part is arranged higher than the first support part when the basket is supported on top of the accessory inside the dishwasher so that a main dish supporting plane (303) of the basket, when the basket is supported by the accessory in the dishwasher, is inclined in relation to the horizontal (H), and wherein the accessory further comprises an open structure (116) so as to allow dishing and/or rinsing water from below the accessory to reach dishes arranged in the basket through the open structure (116), **characterised in that** the accessory is formed as one single homogenous material body comprising said support parts, **in that** the accessory (100;200) further comprises a second side wall (102;202), in turn comprising the said second support part (103;203), **in that** the second side wall (102;202) is rigidly connected to the first support part (101;201), and **in that** the second support part (103;203) is arranged to engage with a stackability indentation (302) of the basket (300), so as to fix the position, in relation to the horizontal (H), of the basket (300) when supported by the accessory

in the dishwasher.

2. Dishwasher (400) accessory (100;200) according to claim 1, **characterised in that** the second side wall (102;202) comprises at least one through hole (105,115;205,215) arranged to allow drying air (402) to pass through the through hole and up to the basket (300) from below when the basket is supported on the accessory in the dishwasher during operation thereof. 5
3. Dishwasher (400) accessory (100;200) according to claim 1 or 2, **characterised in that** the second support part (103;203) comprises a flange (114;214) arranged to engage with an opening (302) in a bottom side of the basket (300). 10
4. Dishwasher (400) accessory (100;200) according to any one of the preceding claims, **characterised in that** the first support part (101;201) is a flat surface on which a bottom side edge of the first part of the basket (300) is arranged to rest. 15
5. Dishwasher (400) accessory (100;200) according to any one of the preceding claims, **characterised in that** the accessory further comprises a third (106;206) and a fourth (107;207) side wall, each running from the first support part (101;201) to the second side wall (102;202) on either side of the accessory, and **in that** at least one of said third and fourth side walls is arranged to allow drying air (402) to pass the side wall in question and up to the basket (300) from below when the basket is supported on the accessory in the dishwasher during operation thereof. 20
6. Dishwasher (400) accessory (100;200) according to claim 5, **characterised in that** the said second (102;202), third (106;206) and fourth (107;207) side walls, together with a first side wall (104;204) opposite to the second side wall, form a rigid rectangle substantially the same size as the basket (300) as seen in the said main dish supporting plane (303) of the basket. 25
7. Dishwasher (400) accessory (100;200) according to claim 5 or 6, **characterised in that** the said third (106;206) and fourth (107;207) side walls are arranged so as to define a hollow space between them, and between a support on which the accessory rests and the basket (300), when the basket is supported on the accessory. 30
8. Dishwasher (400) accessory (100;200) according to any one of the preceding claims, **characterised in that** a bottom part (109;209) of the accessory rigidly connects the first support part (101;201) to the second support part (103;203), or to a second side wall (102;202) in turn comprising the second support part (103;203), and **in that** the said bottom part is perforated so as to allow dishing and/or rinsing water (401) to pass through the bottom part (109;209), from below the accessory when supporting the basket (300) in the dishwasher during operation thereof. 35
9. Dishwasher (400) accessory (100;200) according to claim 8, **characterised in that** the said bottom part (109;209) comprises beams (110,111;210,211) arranged to engage with the driving mechanism of a tunnel or flight conveyor dishwasher for driving the accessory through such a dishwasher during operation thereof. 40
10. Dishwasher (400) accessory (100;200) according to claim 8 or 9, **characterised in that** the said bottom part (109;209) is substantially built up from a peripheral frame and a plurality of beams (110,111;210,211) arranged inside the peripheral frame, and **in that** said beams are arranged with rectangular cross-sections so that no pockets are formed by said beams in which water can be trapped when the accessory is oriented with the said bottom part down. 45
11. Dishwasher (400) accessory (100;200) according to any one of the preceding claims, **characterised in that** the said inclination (A) is at least 7°. 50
12. Dishwasher (400) accessory (100;200) according to any one of the preceding claims, **characterised in that** the accessory is made of plastic material. 55
13. Method for operating a dishwasher (400), **characterised in that** the method comprises the following steps:
 - a) placing a dishwasher basket (300) on a dishwasher accessory (100;200) in the dishwasher, which accessory comprises an open structure (116;216) and is formed as one single homogeneous material body, in turn comprising a first support part (101;201), supporting a first part (304) of the basket, and a second support part (103;203) supporting a second part (305) of the basket located on the opposite side of a bottom (306) of the basket, whereby the second support part is arranged higher than the first support part so that a main dish supporting plane (303) of the basket is inclined in relation to the horizontal (H) when the basket is supported by the accessory, whereby the accessory (100;200) further comprises a second side wall (102;202), in turn comprising the said second support part (103;203), wherein the second side wall (102;202) is rigidly connected to the first support part (101;201), and wherein the second support part (103;203)

is arranged to engage with a stackability indentation (302) of the basket (300), so as to fix the position, in relation to the horizontal (H), of the basket (300) when supported by the accessory in the dishwasher;

b) operating the dishwasher to wash dishes (310) arranged in the basket in turn supported by the accessory, whereby dishing and/or rinsing water (401) from below the accessory reaches the said dishes through said open structure; and

c) removing the dishes from the basket.

14. Method according to claim 14, **characterised in that**, in step b), the dishes (310) are dried while the basket (300) is still supported by the accessory (100;200) before step c) is performed.

15. Method according to claim 14 or 15, **characterised in that** the dishwasher (400) is a tunnel- or flight conveyor type dishwasher, and **in that**, in step b), the basket (300) is moved through the dishwasher by the conventional dishwasher basket driving means engaging with and operating on beams (110;210) comprised in the accessory (100;200).

Patentansprüche

1. Zubehörteil (100; 200) einer Spülmaschine (400), wobei das Zubehörteil geeignet ist, unter einem Spülmaschinenkorb (300) angeordnet zu werden und den Korb innerhalb der Spülmaschine und während des Abwaschbetriebs der Spülmaschine zu tragen, wobei das Zubehörteil einen ersten Trägerteil (101; 201), der angeordnet ist, um einen ersten Teil (304) des Korbs zu tragen, und einen zweiten Trägerteil (103; 203) aufweist, der angeordnet ist, um einen zweiten Teil (305) des Korbs zu tragen, der sich auf der entgegengesetzten Seite eines Bodens (306) des Korbs befindet, wobei der zweite Trägerteil höher angeordnet ist als der erste Trägerteil, wenn der Korb auf der Oberseite des Zubehörteils innerhalb der Spülmaschine getragen wird, so dass eine Hauptgeschirrtragebene (303) des Korbs, wenn der Korb vom Zubehörteil in der Spülmaschine getragen wird, in Bezug auf die Waagrechte (H) geneigt ist, und wobei das Zubehörteil weiter eine offene Struktur (116) aufweist, um zu erlauben, dass Abwasch- und/oder Spülwasser von unterhalb des Zubehörteils durch die offene Struktur (116) hindurch im Korb angeordnet Geschirrtteile erreichen kann, **dadurch gekennzeichnet, dass** das Zubehörteil als ein einziger homogener Grundkörper geformt ist, der die Trägerteile aufweist, dass das Zubehörteil (100; 200) weiter eine zweite Seitenwand (102; 202) aufweist, die ihrerseits den zweiten Trägerteil (103; 203) aufweist, dass die zweite Seitenwand (102; 202)

starr mit dem ersten Trägerteil (101; 201) verbunden ist, und dass der zweite Trägerteil (103; 203) angeordnet ist, um mit einer Stapelbarkeit-Einbuchtung (302) des Korbs (300) in Eingriff zu kommen, um die Stellung des Korbs (300) in Bezug auf die Waagrechte (H) festzulegen, wenn er vom Zubehörteil in der Spülmaschine getragen wird.

2. Zubehörteil (100; 200) einer Spülmaschine (400) nach Anspruch 1, **dadurch gekennzeichnet, dass** die zweite Seitenwand (102; 202) mindestens ein Durchgangsloch (105, 115; 205, 215) aufweist, das angeordnet ist, um zu ermöglichen, dass Trocknungsluft (402) durch das Durchgangsloch und von unten nach oben zum Korb (300) strömt, wenn der Korb auf dem Zubehörteil in der Spülmaschine während deren Betrieb getragen wird.

3. Zubehörteil (100; 200) einer Spülmaschine (400) nach Anspruch 1 oder 2, **dadurch gekennzeichnet, dass** der zweite Trägerteil (103; 203) eine Kante (114; 214) aufweist, die angeordnet ist, um mit einer Öffnung (302) in einer Bodenseite des Korbs (300) in Eingriff zu kommen.

4. Zubehörteil (100; 200) einer Spülmaschine (400) nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** der erste Trägerteil (101; 201) eine flache Fläche ist, auf der eine Bodenseitenkante des ersten Teils des Korbs (300) aufliegen kann.

5. Zubehörteil (100; 200) einer Spülmaschine (400) nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** das Zubehörteil weiter eine dritte (106; 206) und eine vierte (107; 207) Seitenwand enthält, die je vom ersten Trägerteil (101; 201) zur zweiten Seitenwand (102; 202) auf beiden Seiten des Zubehörteils verlaufen, und dass mindestens eine der dritten und vierten Seitenwände angeordnet ist, um es Trocknungsluft (402) zu ermöglichen, an der betreffenden Seitenwand vorbei und nach oben zum Korb (300) zu strömen, wenn der Korb auf dem Zubehörteil in der Spülmaschine während deren Betrieb getragen wird.

6. Zubehörteil (100; 200) einer Spülmaschine (400) nach Anspruch 5, **dadurch gekennzeichnet, dass** die zweite (102; 202), dritte (106; 206) und vierte (107; 207) Seitenwand zusammen mit einer ersten Seitenwand (104; 204) gegenüber der zweiten Seitenwand ein starres Rechteck formen, das im Wesentlichen die gleiche Größe hat wie der Korb (300), gesehen in der Hauptgeschirrtragebene (303) des Korbs.

7. Zubehörteil (100; 200) einer Spülmaschine (400) nach Anspruch 5 oder 6, **dadurch gekennzeichnet,**

- dass** die dritte (106; 206) und vierte (107; 207) Seitenwand so angeordnet sind, dass sie einen Hohlraum zwischen sich und zwischen einem Träger, auf dem das Zubehörteil aufliegt, und dem Korb (300) definieren, wenn der Korb auf dem Zubehörteil getragen wird. 5
8. Zubehörteil (100; 200) einer Spülmaschine (400) nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** ein Bodenteil (109; 209) des Zubehörteils den ersten Trägerteil (101; 201) starr mit dem zweiten Trägerteil (103; 203) oder mit einer zweiten Seitenwand (102; 202) verbindet, die ihrerseits den zweiten Trägerteil (103; 203) aufweist, und dass der Bodenteil gelocht ist, um es dem Abwasch- und/oder Spülwasser (401) zu erlauben, durch den Bodenteil (109; 209) von unterhalb des Zubehörteils zu strömen, wenn der Korb (300) in der Spülmaschine während deren Betrieb getragen wird. 10 15 20
9. Zubehörteil (100; 200) einer Spülmaschine (400) nach Anspruch 8, **dadurch gekennzeichnet, dass** der Bodenteil (109; 209) Balken (110, 111; 210, 211) aufweist, die angeordnet sind, um in den Antriebsmechanismus einer Tunnel- oder Bandtransport-Spülmaschine einzugreifen, um das Zubehörteil durch eine solche Spülmaschine während deren Betrieb anzutreiben. 25 30
10. Zubehörteil (100; 200) einer Spülmaschine (400) nach Anspruch 8 oder 9, **dadurch gekennzeichnet, dass** der Bodenteil (109; 209) im Wesentlichen aus einem Umfangsrahmen und einer Vielzahl von Balken (110, 111; 210, 211) aufgebaut ist, die innerhalb des Umfangsrahmens angeordnet sind, und dass die Balken mit rechtwinkligen Querschnitten angeordnet sind, so dass keine Taschen von den Balken geformt werden, in denen Wasser eingeschlossen werden kann, wenn das Zubehörteil mit dem Bodenteil nach unten ausgerichtet ist. 35 40
11. Zubehörteil (100; 200) einer Spülmaschine (400) nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** die Neigung (A) mindestens 7° beträgt. 45
12. Zubehörteil (100; 200) einer Spülmaschine (400) nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** das Zubehörteil aus Kunststoff hergestellt ist. 50
13. Verfahren für den Betrieb einer Spülmaschine (400), **dadurch gekennzeichnet, dass** das Verfahren die folgenden Schritte aufweist: 55
- a) Platzieren eines Spülmaschinenkorbs (300) auf einem Spülmaschinen-Zubehörteil (100; 200) in der Spülmaschine, welches Zubehörteil eine offene Struktur (116; 216) aufweist und als ein einziger homogener Grundkörper geformt ist, der seinerseits einen ersten Trägerteil (101; 201), der einen ersten Teil (304) des Korbs trägt, und einen zweiten Trägerteil (103; 203) aufweist, der einen zweiten Teil (305) des Korbs trägt, der sich auf der entgegengesetzten Seite eines Bodens (306) des Korbs befindet, wobei der zweite Trägerteil höher als der erste Trägerteil angeordnet ist, so dass eine Hauptgeschirrtageebene (303) des Korbs in Bezug auf die Waagrechte (H) geneigt ist, wenn der Korb vom Zubehörteil getragen wird, wobei das Zubehörteil (100; 200) weiter eine zweite Seitenwand (102; 202) aufweist, die ihrerseits den zweiten Trägerteil (103; 203) aufweist, wobei die zweite Seitenwand (102; 202) starr mit dem ersten Trägerteil (101; 201) verbunden ist, und wobei der zweite Trägerteil (103; 203) angeordnet ist, um in eine Stapelbarkeit-Einbuchtung {302} des Korbs {300} einzugreifen, um die Stellung des Korbs {300} in Bezug auf die Waagrechte (H) festzulegen, wenn er vom Zubehörteil in der Spülmaschine getragen wird;
- b) Betreiben der Spülmaschine, um im Korb angeordnete Geschirrtteile {310} abzuwaschen, der seinerseits vom Zubehörteil getragen wird, wobei das Abwasch- und/oder Spülwasser (401) von unterhalb des Zubehörteils die Geschirrtteile durch die offene Struktur erreicht; und
- c) Entfernen der Geschirrtteile aus dem Korb.
14. Verfahren nach Anspruch 14, **dadurch gekennzeichnet, dass** im Schritt b) die Geschirrtteile {310} getrocknet werden, während der Korb {300} noch vom Zubehörteil (100; 200) getragen wird, ehe der Schritt c) ausgeführt wird. 35
15. Verfahren nach Anspruch 14 oder 15, **dadurch gekennzeichnet, dass** die Spülmaschine (400) eine Tunnel- oder Bandtransport-Spülmaschine ist, und dass im Schritt b) der Korb {300} durch die Spülmaschine durch den üblichen Spülmaschinenkorbantrieb bewegt wird, der in im Zubehörteil (100; 200) enthaltene Balken (110; 210) eingreift und auf sie einwirkt. 40

Revendications

1. Accessoire (100; 200) de lave-vaisselle (400), lequel accessoire est adapté pour être agencé au-dessous d'un panier de lave-vaisselle (300) et pour supporter le panier à l'intérieur du lave-vaisselle et pendant de l'opération de lavage du lave-vaisselle, dans lequel l'accessoire comprend une première partie de support (101 ; 201) agencée pour supporter une première

- re partie (304) du panier, et une seconde partie de support (103 ; 203) agencée pour supporter une seconde partie (305) du panier positionnée sur le côté opposé d'un fond (306) du panier, dans lequel la seconde partie de support est agencée plus haut que la première partie de support lorsque le panier est supporté sur la partie supérieure de l'accessoire à l'intérieur du lave-vaisselle de sorte qu'un plan de support de vaisselle principal (303) du panier, lorsque le panier est supporté par l'accessoire dans le lave-vaisselle, est incliné par rapport à l'horizontale (H), et dans lequel l'accessoire comprend en outre un structure ouverte (116) afin de permettre à l'eau de vaisselle et/ou de rinçage au-dessous de l'accessoire, d'atteindre la vaisselle agencée dans le panier par la structure ouverte (116), **caractérisé en ce que** l'accessoire est formé comme un corps de matériau homogène unique comprenant lesdites parties de support, **en ce que** l'accessoire (100 ; 200) comprend en outre une deuxième paroi latérale (102, 202), comprenant à son tour ladite seconde partie de support (103 ; 203), **en ce que** la deuxième paroi latérale (102 ; 202) est rigidement raccordée à la première partie de support (101 ; 201) et **en ce que** la seconde partie de support (103 ; 203) est agencée pour se mettre en prise avec une indentation d'empilage (302) du panier (300), afin de déterminer la position, par rapport à l'horizontale (H), du panier (300) lorsqu'il est supporté par l'accessoire dans le lave-vaisselle.
2. Accessoire (100; 200) de lave-vaisselle (400) selon la revendication 1, **caractérisé en ce que** la deuxième paroi latérale (102, 202) comprend au moins un trou débouchant (105, 115 ; 205, 215) agencé pour permettre à l'air de séchage (402) de passer par le trou débouchant et aller jusqu'au panier (300) depuis le dessous lorsque le panier est supporté sur l'accessoire dans le lave-vaisselle pendant son fonctionnement.
 3. Accessoire (100; 200) de lave-vaisselle (400) selon la revendication 1 ou 2, **caractérisé en ce que** la seconde partie de support (103 ; 203) comprend une bride (114 ; 214) agencée pour se mettre en prise avec une ouverture (302) dans un côté inférieur du panier (300).
 4. Accessoire (100 ; 200) de lave-vaisselle (400) selon l'une quelconque des revendications précédentes, **caractérisé en ce que** la première partie de support (101 ; 201) est une surface plate sur laquelle un bord latéral inférieur de la première partie du panier (300) est agencée pour s'y appuyer.
 5. Accessoire (100 ; 200) de lave-vaisselle (400) selon l'une quelconque des revendications précédentes, **caractérisé en ce que** l'accessoire comprend en outre une troisième (106 ; 206) et une quatrième (107 ; 207) paroi latérale, chacune s'étendant à partir de la première partie de support (101 ; 201) jusqu'à la deuxième paroi latérale (102 ; 202) de chaque côté de l'accessoire, et **en ce qu'**au moins l'une desdites troisième et quatrième parois latérales est agencée pour permettre à l'air de séchage (402) de passer par la paroi latérale en question et aller jusqu'au panier (300) depuis le dessous, lorsque le panier est supporté sur l'accessoire dans le lave-vaisselle pendant son fonctionnement.
 6. Accessoire (100; 200) de lave-vaisselle (400) selon la revendication 5, **caractérisé en ce que** lesdites deuxième (102 ; 202), troisième (106 ; 206) et quatrième (107 ; 207) parois latérales, conjointement avec une première paroi latérale (104 ; 204) opposée à la deuxième paroi latérale, forment un rectangle rigide sensiblement de la même taille que le panier (300), lorsqu'il est observé dans ledit plan de support de vaisselle principal (303) du panier.
 7. Accessoire (100; 200) de lave-vaisselle (400) selon la revendication 5 ou 6, **caractérisé en ce que** lesdites troisième (106 ; 206) et quatrième (107 ; 207) parois latérales sont agencées afin de définir un espace creux entre elles, et entre un support sur lequel l'accessoire s'appuie et le panier (300), lorsque le panier est supporté sur l'accessoire.
 8. Accessoire (100 ; 200) de lave-vaisselle (400) selon l'une quelconque des revendications précédentes, **caractérisé en ce qu'**une partie inférieure (109 ; 209) de l'accessoire raccorde rigidement la première partie de support (101 ; 201) à la seconde partie de support (103 ; 203) ou à une deuxième paroi latérale (102 ; 202) comprenant à son tour la seconde partie de support (103 ; 203) et **en ce que** ladite partie inférieure est perforée afin de permettre à l'eau de vaisselle et/ou de rinçage (401) de passer par la partie inférieure (109 ; 209), depuis le dessous de l'accessoire lorsqu'il supporte le panier (300) dans le lave-vaisselle pendant son fonctionnement.
 9. Accessoire (100; 200) de lave-vaisselle (400) selon la revendication 8, **caractérisé en ce que** ladite partie inférieure (109 ; 209) comprend des poutres (110, 111 ; 210, 211) agencées pour se mettre en prise avec le mécanisme d'entraînement d'un lave-vaisselle de type à tunnel ou à bandes transporteuses pour entraîner l'accessoire à travers un tel lave-vaisselle pendant son fonctionnement.
 10. Accessoire (100 ; 200) de lave-vaisselle (400) selon la revendication 8 ou 9, **caractérisé en ce que** ladite partie inférieure (109 ; 209) est sensiblement construite à partir d'un bâti périphérique et d'une pluralité de poutres (110, 111 ; 210, 211) agencées à l'inté-

rieur du bâti périphérique, et **en ce que** lesdites poutres sont agencées avec des sections transversales rectangulaires de sorte qu'aucune poche n'est formée par lesdites poutres dans lesquelles l'eau peut être piégée lorsque l'accessoire est orienté avec ladite partie inférieure vers le bas.

11. Accessoire (100; 200) de lave-vaisselle (400) selon l'une quelconque des revendications précédentes, **caractérisé en ce que** ladite inclinaison (A) est d'au moins 7°. 10
12. Accessoire (100; 200) de lave-vaisselle (400) selon l'une quelconque des revendications précédentes, **caractérisé en ce que** ledit accessoire est réalisé à partir d'une matière plastique. 15
13. Procédé pour faire fonctionner un lave-vaisselle (400), **caractérisé en ce que** le procédé comprend les étapes suivantes : 20

a) placer un panier de lave-vaisselle (300) sur un accessoire de lave-vaisselle (100 ; 200) dans le lave-vaisselle, lequel l'accessoire comprend une structure ouverte (116 ; 216) et est formée comme un corps de matériau homogène unique, comprenant à son tour une première partie de support (101, 201) supportant une première partie (304) du panier, et une seconde partie de support (103, 203) supportant une seconde partie (305) du panier positionnée sur le côté opposé d'un fond (306) du panier, moyennant quoi la seconde partie de support est agencée plus haut que la première partie de support de sorte qu'un plan de support de vaisselle principal (303) du panier est incliné par rapport à l'horizontale (H) lorsque le panier est supporté par l'accessoire, moyennant quoi l'accessoire (100 ; 200) comprend en outre une deuxième paroi latérale (102 ; 202), comprenant à son tour ladite seconde partie de support (103 ; 203), dans lequel la deuxième paroi latérale (102 ; 202) est rigidement raccordée à la première partie de support (101 ; 201), et dans lequel la seconde partie de support (103 ; 203) est agencée pour se mettre en prise avec une indentation d'empilage (302) du panier (300), afin de déterminer la position, par rapport à l'horizontale (H), du panier (300) lorsqu'il est supporté par l'accessoire dans le lave-vaisselle ; 25 30 35 40 45 50

b) actionner le lave-vaisselle pour laver la vaisselle (310) agencée dans le panier supporté à son tour par l'accessoire, moyennant quoi l'eau de vaisselle et/ou de rinçage (401) depuis le dessous de l'accessoire, atteint ladite vaisselle par ladite structure ouverte ; et 55

c) retirer la vaisselle du panier.

14. Procédé selon la revendication 14, **caractérisé en ce qu'à l'étape b)**, la vaisselle (310) est séchée alors que le panier (300) est toujours supporté par l'accessoire (100 ; 200) avant que l'étape c) ne soit réalisée.

15. Procédé selon la revendication 14 ou 15, **caractérisé en ce que** le lave-vaisselle (400) est un lave-vaisselle de type à tunnel ou à bandes transporteurs, et **en ce que**, à l'étape b) le panier (300) est déplacé dans le lave-vaisselle par un moyen d'entraînement de panier de lave-vaisselle classique se mettant en prise avec et fonctionnant sur des poutres (110 ; 210) comprises dans l'accessoire (100 ; 200).

Fig. 1

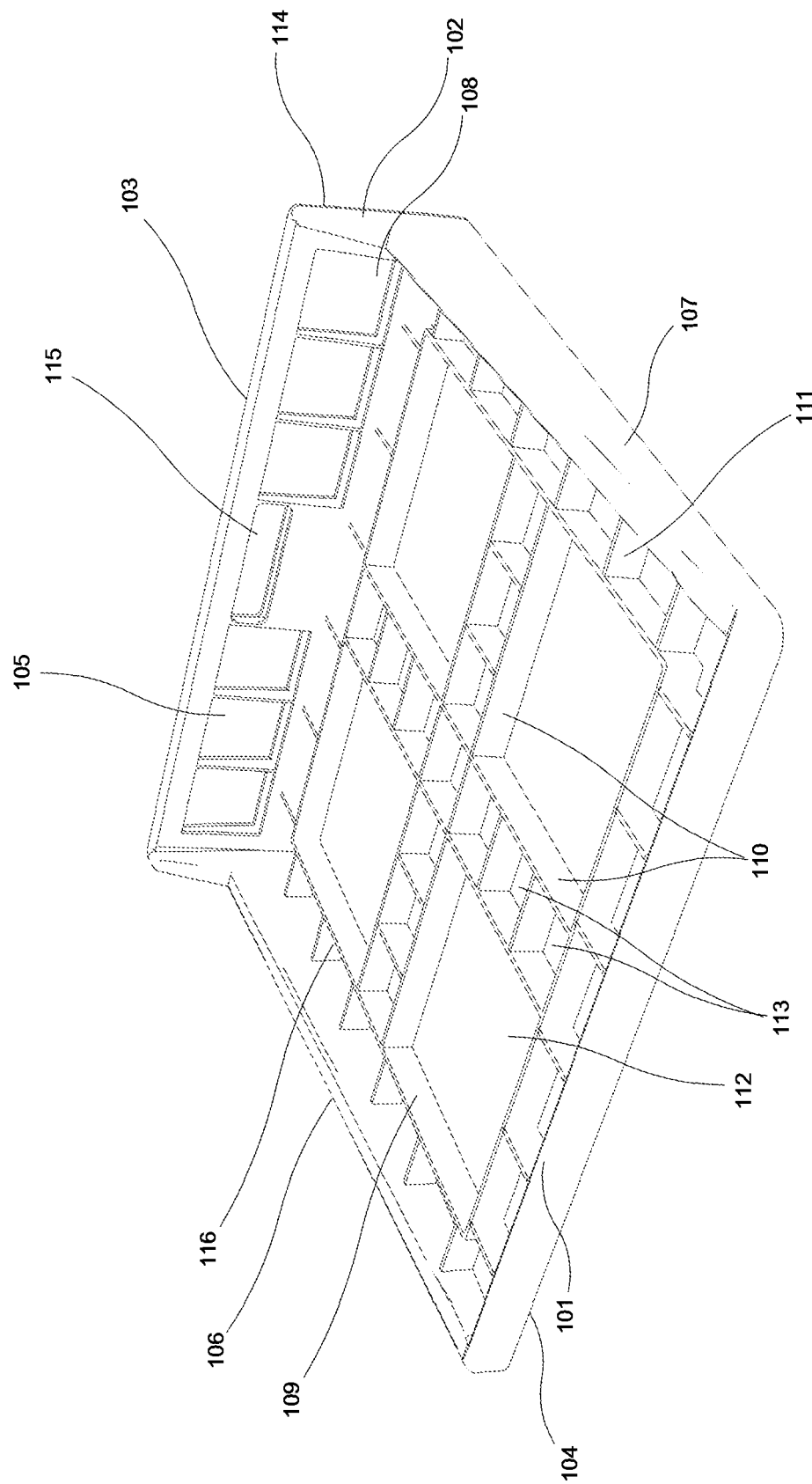


Fig. 2

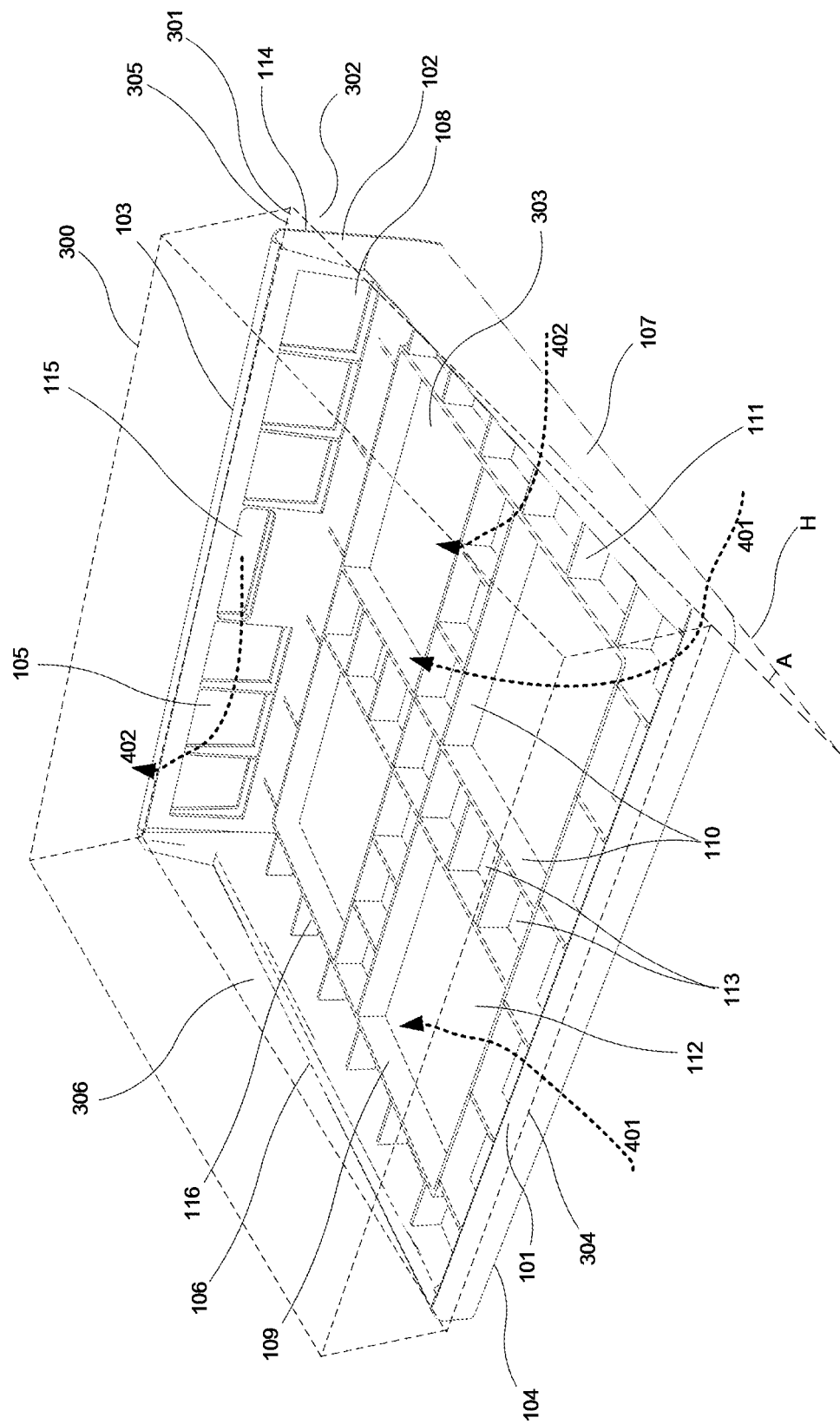


Fig. 3

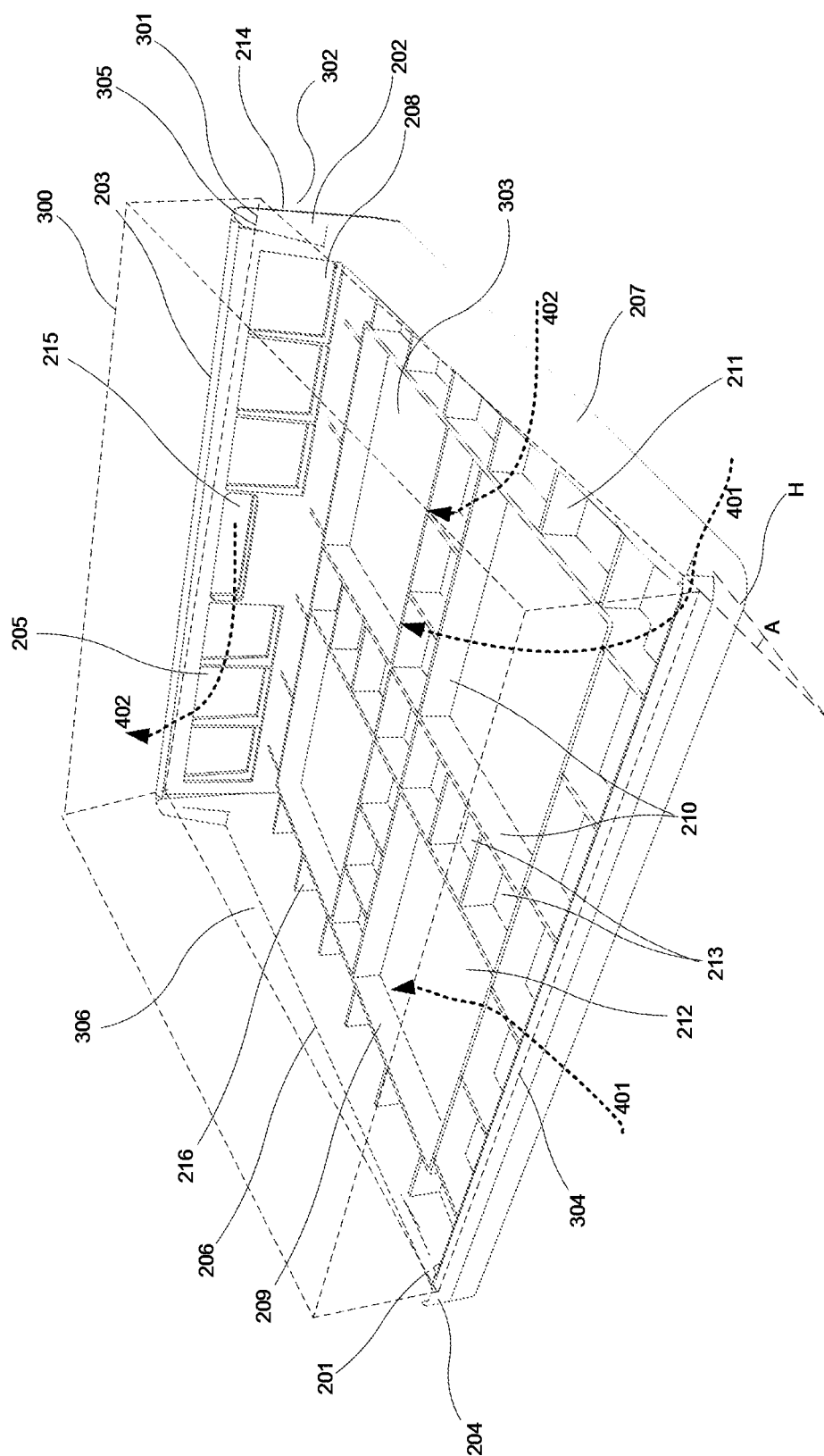


Fig. 4

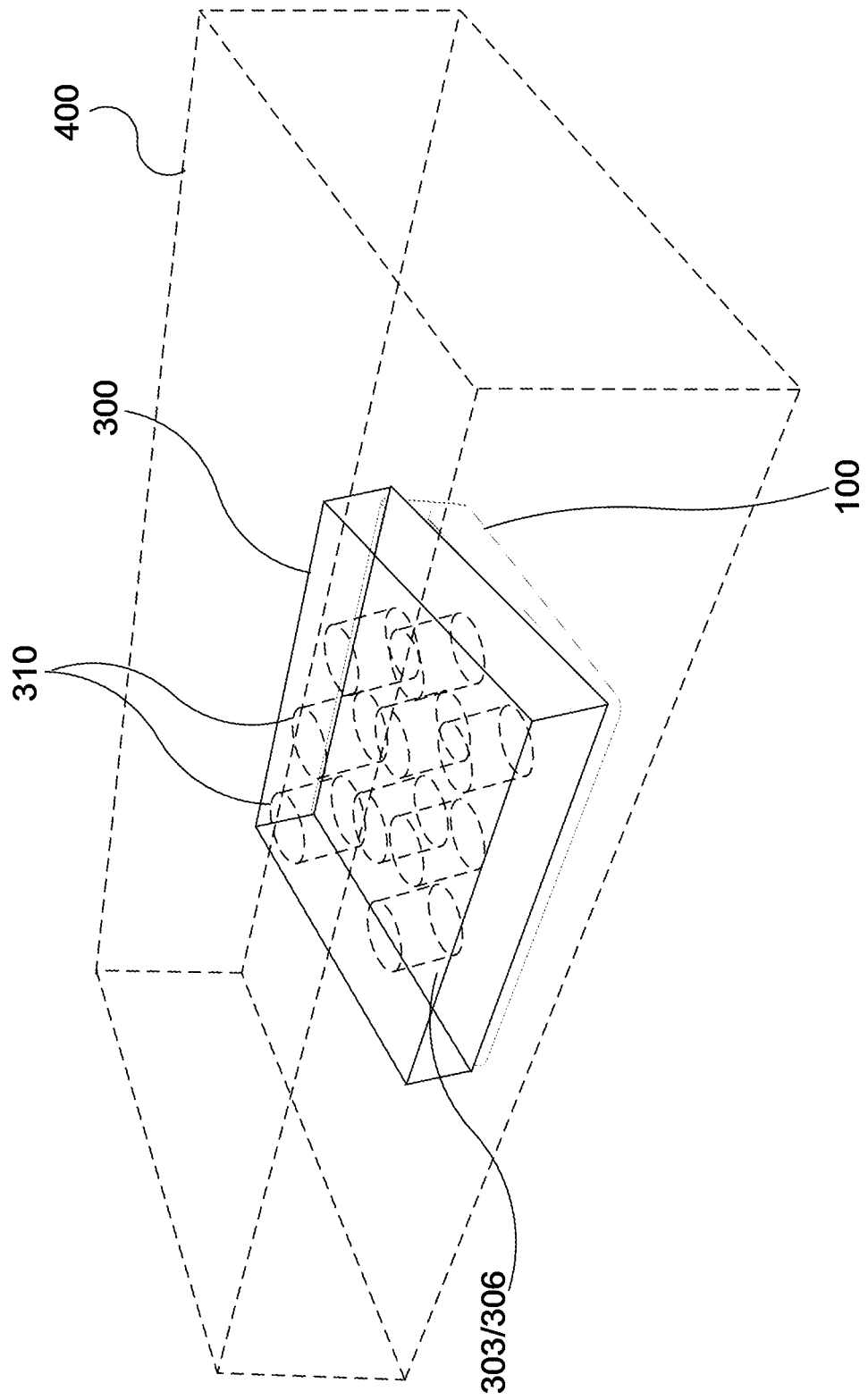
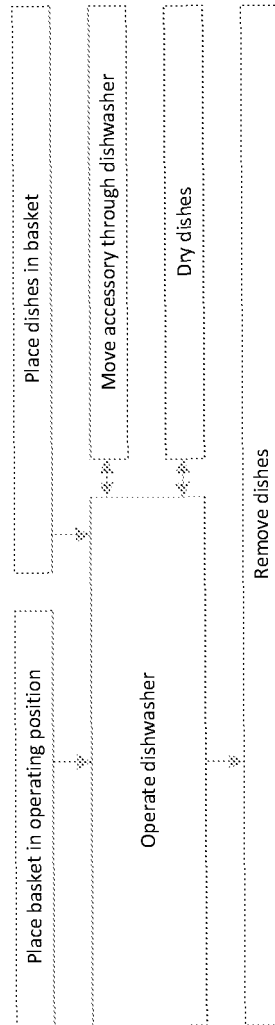


Fig. 5



REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- DE 19708805 A1 [0004]
- EP 1518490 A1 [0005]
- US 20080149149 A1 [0006]
- US 3482707 A [0007]
- DE 202010006233 U1 [0008]