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(71) Applicant: **Candy S.p.A.**
**20052 Monza (MB) (IT)**

(72) Inventor: **Fumagalli, Silvano**
**20052 Monza (MI) (IT)**

(74) Representative: **Mittler, Enrico**
**Mittler & C. S.r.l.**
**Viale Lombardia, 20**
**20131 Milano (IT)**

## (54) Rack for diswasher basket

(57) A rack for dishwasher basket is described. The rack (1) comprises a first portion (20, 20', 20") comprising at least one pair of elements (16, 21) parallel to each other for supporting at least one tableware item and the basket (2) comprises a structure with a bottom (2) and at least two walls (7) connected to the bottom and opposite to each other; the rack is coupled to the walls and comprises a spring portion (10). The first portion comprises guiding means (5) for sliding at least one element (16, 21) of the pair of tableware-supporting elements; the at least one element (16, 21) is associated with the spring portion (10) for moving the other element of the pair along the guiding means over a distance which depends on the size of the tableware item to be supported. (Fig. 1)

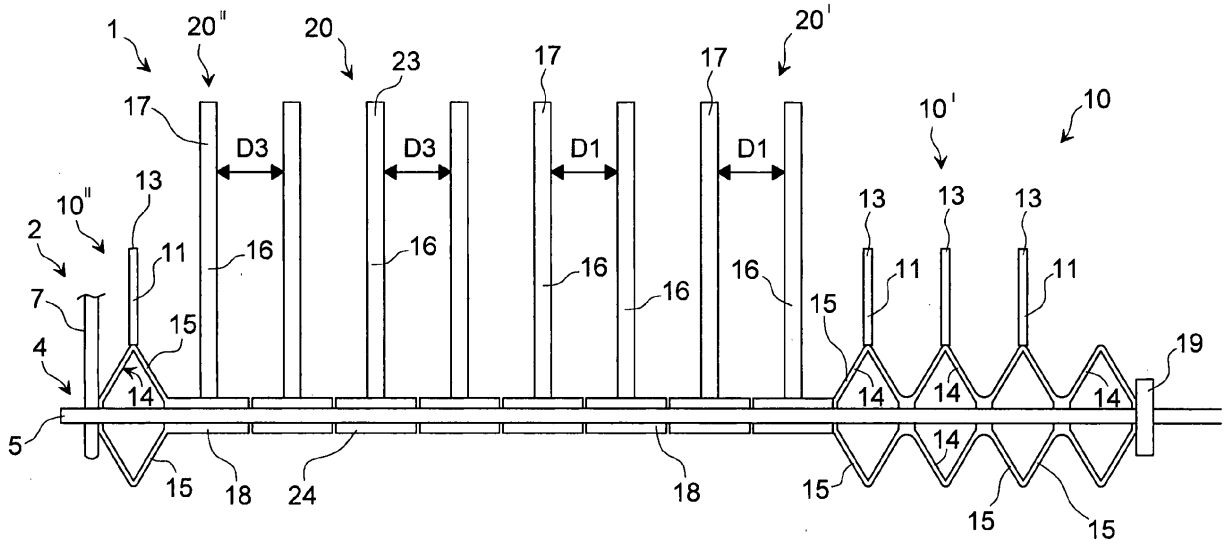


Fig.1

EP 2 322 073 A1

## Description

**[0001]** The present invention relates to a rack for dishwasher basket.

**[0002]** Racks used in lower and upper dishwasher baskets are known in the prior art; they are adapted to support plates or other tableware for allowing more effective washing and inserting a greater number of plates and tableware items into the basket.

**[0003]** However, the current racks do not allow to arrange thicker plates or large-size tableware items.

**[0004]** In light of the described state of the art, it is the object of the present invention to provide a rack for dishwasher basket which allows large-size tableware items to be arranged and which is thus more suited to the user's needs.

**[0005]** In accordance with the present invention, such an object is achieved by a rack for dishwasher basket, said rack comprising a first portion comprising at least one pair of elements parallel to each other for supporting at least one tableware item, and said basket comprising a structure with a bottom and at least two walls connected to the bottom and parallel to each other, said rack being coupled to said walls, characterized in that it comprises a spring portion and in that said first portion comprises guiding means for sliding at least one element of said pair of tableware-supporting elements, said at least one element being associated with said spring portion for moving the other element of the pair along said guiding means over a distance which depends on the size of the tableware item to be supported.

**[0006]** The features and advantages of the present invention will be apparent from the following detailed description of a practical embodiment thereof, shown by way of non-limitative example in the accompanying drawings, in which:

figure 1 is a view of the rack for dishwasher basket in accordance with an embodiment of the present invention;
figure 2 is a view of the rack in figure 1 with teeth moved to allow to support large-size tableware;
figure 3 is a diagrammatic side section taken according to a vertical plane of the rack in figure 1 in a working position;
figure 4 is a diagrammatic side section according to a vertical plane of the rack in figure 1 in a rest position.

**[0007]** Figures 1-4 show a rack 1 for dishwasher basket 2 in accordance with the present invention. Said basket comprises a rod structure 2 adapted to define a bottom 3 and side walls, a front wall and a rear wall 6 of basket 2. Rack 1 is connected to the basket by means of fastening means 4 to the opposite walls of the basket, e.g. to the side walls 7 of the basket. Rack 1 comprises a rod 5 which preferably extends parallel to the rear wall 6 or to the front wall of the basket.

**[0008]** Rack 1 comprises at least one extensible and compressible elastic or spring-type portion 10; rack 1 comprises a tableware-supporting portion 20, extensible in length parallel to the rear 6 or frontal wall of basket 2. Portion 20 is slidingly coupled to the .rod 5; therefore, rod 5 acts as a guide for sliding the portion 20.

**[0009]** Portion 10 comprises teeth 11 equipped with appendixes 13; the teeth are fixed to triangular parts 14, symmetric to the rod 5 and equipped with elastic sides 15 to allow the portion 10 to be extended or compressed, as shown in figures 1 and 2. Portion 10 comprises two parts 10' and 10" arranged by the sides of portion 20. Part 10 is coupled to a rack part 20', 20" with teeth 16 equipped with longer appendixes 17 than appendixes 13; in particular, the rack part 20' coupled to portion 10' comprises teeth 16 arranged at a predetermined distance D1, while the rack part 20" coupled to portion 10" comprises only one tooth 16 with appendix 17.

**[0010]** The distance between teeth 11 may vary between a minimum distance, if portion 10' is fully compressed, and a maximum distance, if portion 10' is fully extended. Portion 10 preferably comprises semi-cylindrical seats or bushings adapted to engage said rod 5 for sliding the portion 10 on the rod 5. Parts 20' and 20" also comprise semi-cylindrical seats or bushings 18 adapted to engage said rod 5 for sliding the portion 20', 20" on the rod 5.

**[0011]** Rack 1 is pivotally fixed in points 19 and 4 of the side walls 7.

**[0012]** Portion 20 comprises teeth 21 equipped with appendixes 23 which are vertically higher than the teeth 11 and equal to teeth 16; each tooth comprises a single semi-cylindrical bushing or seat 24 adapted to engage the rod 5 for sliding the tooth 21 on the rod 5. Each tooth 21 is provided with a respective bushing so as to be able to arrange it at a given distance D from the end 25 of the rack 1 or from the tooth 21 which either precedes or follows it. Each tooth 21 may be arranged at a minimum distance D3, e.g. 20 mm, from the tooth 21 or 11 which follows it in a direction towards portion 10, if the elastic portion 10 is totally extended and compresses the portion 20, and if the tableware to be inserted between the teeth 21 is of standard type. If one or more large-size tableware items 50 need to be arranged between adjacent pairs of teeth, at least one pair of adjacent teeth 21 or adjacent teeth 21 and 16 are arranged at a distance D4, e.g. 35 mm, to allow the arrangement of the large-size tableware item 50 therebetween; in such a case, portion 10 is compressed. In case of many large-sized tableware items 50, the distance between the teeth 16 of portions 20', 20" from the adjacent teeth 21 of portion 20 is D4 again, and the distance between the teeth 21 of portion 20 is D4 again.

**[0013]** The compression of the portion 10 is decided by the user to modify the configuration of the rack according to the size of the tableware to be supported by rack 1 in basket 2. If the user needs to arrange some large-size, thick tableware items, e.g. large, thick plates, for example, portion 10 will be more compressed to allow

all said plates to be arranged between the teeth 21 and 16 arranged up to the distance D4; if instead the plates have a minimum thickness, portion 10 will be slightly compressed to allow all said plates to be arranged between the teeth 21 and 16 arranged up to the distance D3. Varying the distance between the teeth 21 depends on the thickness of the tableware items.

**[0014]** Rack 1 may be arranged in a working position A and in a rest position B.

**[0015]** In the working position A, shown in figure 3, rack 1 is arranged in a substantially vertical position to support the tableware between the adjacent pairs of teeth; a hook 30 allows to arrange the rack in a vertical position. In said position, the teeth 21 and 16 which preferably vertically extend, allow to support the plates in the basket 2 in combination with the structure of the same basket. The teeth of the rack allow the plates to be arranged in the basket in an inclined position with respect to a vertical axis which is suitable for washing.

**[0016]** In the rest position B, shown in figure 4, the rack is arranged in a horizontal position. The rest position B may also be inclined with respect to a horizontal axis by a given angle.

**[0017]** The use of two racks 1 arranged parallel to each other may be provided for better supporting the tableware.

## Claims

1. A rack for dishwasher basket, said rack (1) comprising a first portion (20, 20', 20") comprising at least one pair of elements (16, 21) parallel to each other, for supporting at least one tableware item and said basket (2) comprising a structure with a bottom (2) and at least two walls (7) connected to the bottom and parallel to each other, said rack being coupled to said walls, **characterized in that** it comprises a spring portion (10) and **in that** said first portion comprises guiding means (5) for sliding at least one element (16, 21) of said pair of tableware-supporting elements, said at least one element (16, 21) being associated with said spring portion (10) for moving the other element of the pair along said guiding means over a distance which depends on the size of the tableware item to be supported.

2. A rack according to claim 1, **characterized in that** said guiding means (5) comprise at least one rod (5).

3. A rack according to claim 2, **characterized in that** said rod is transversally arranged to said walls of the basket.

4. A rack according to any one of the preceding claims, **characterized in that** it comprises a plurality of tableware-supporting elements, said plurality of elements comprising a plurality of teeth (21, 11) arranged parallel to one another and singularly coupled to said rod by its own sliding means, said spring portion being adapted to allow to vary the distance of the teeth of said plurality of teeth according to the size of the tableware to be supported.

5. A rack according to claim 3, **characterized in that** said spring portion (10) comprises triangular parts (14) adapted to allow extension or compression.

6. A rack according to claim 1, **characterized in that** it comprises positioning means (30) for arranging it in a working position (A) in which said rack is adapted to support the tableware.

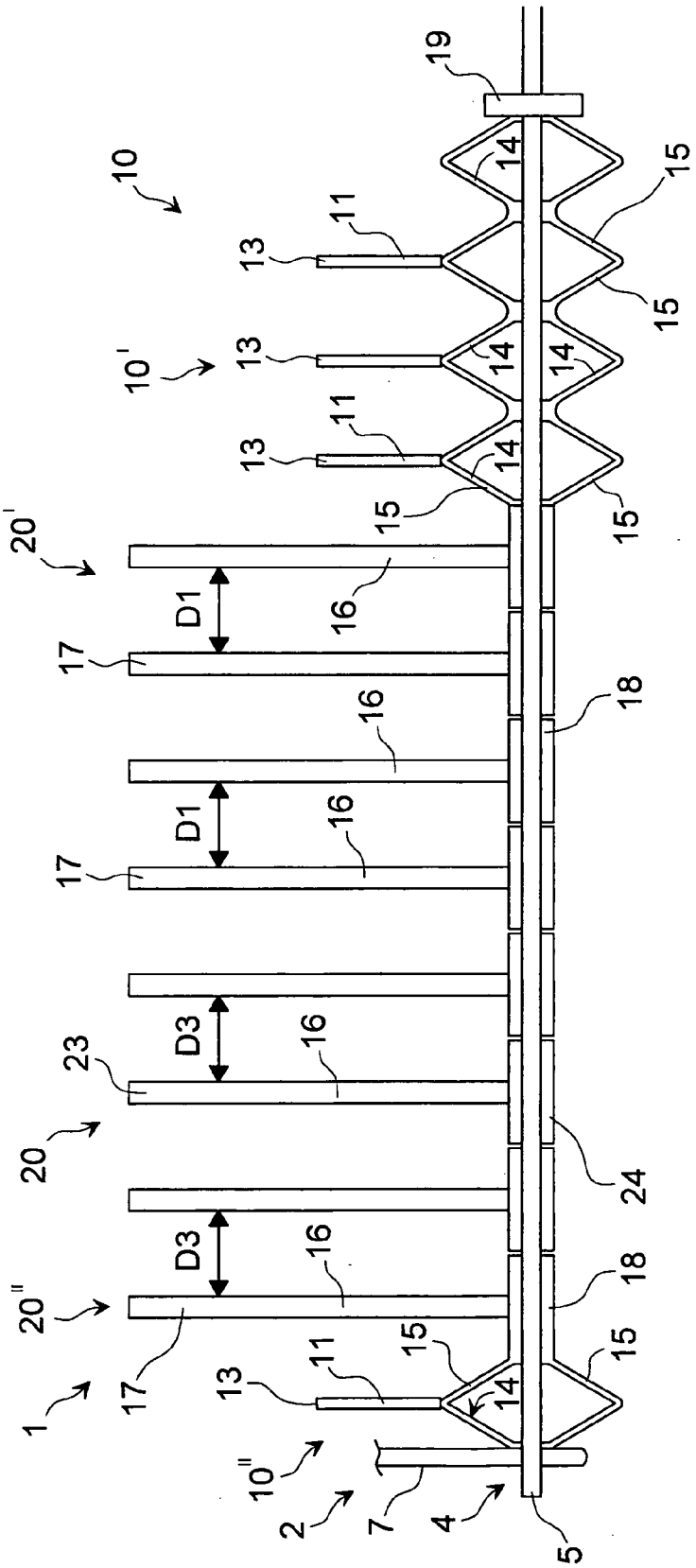


Fig.1

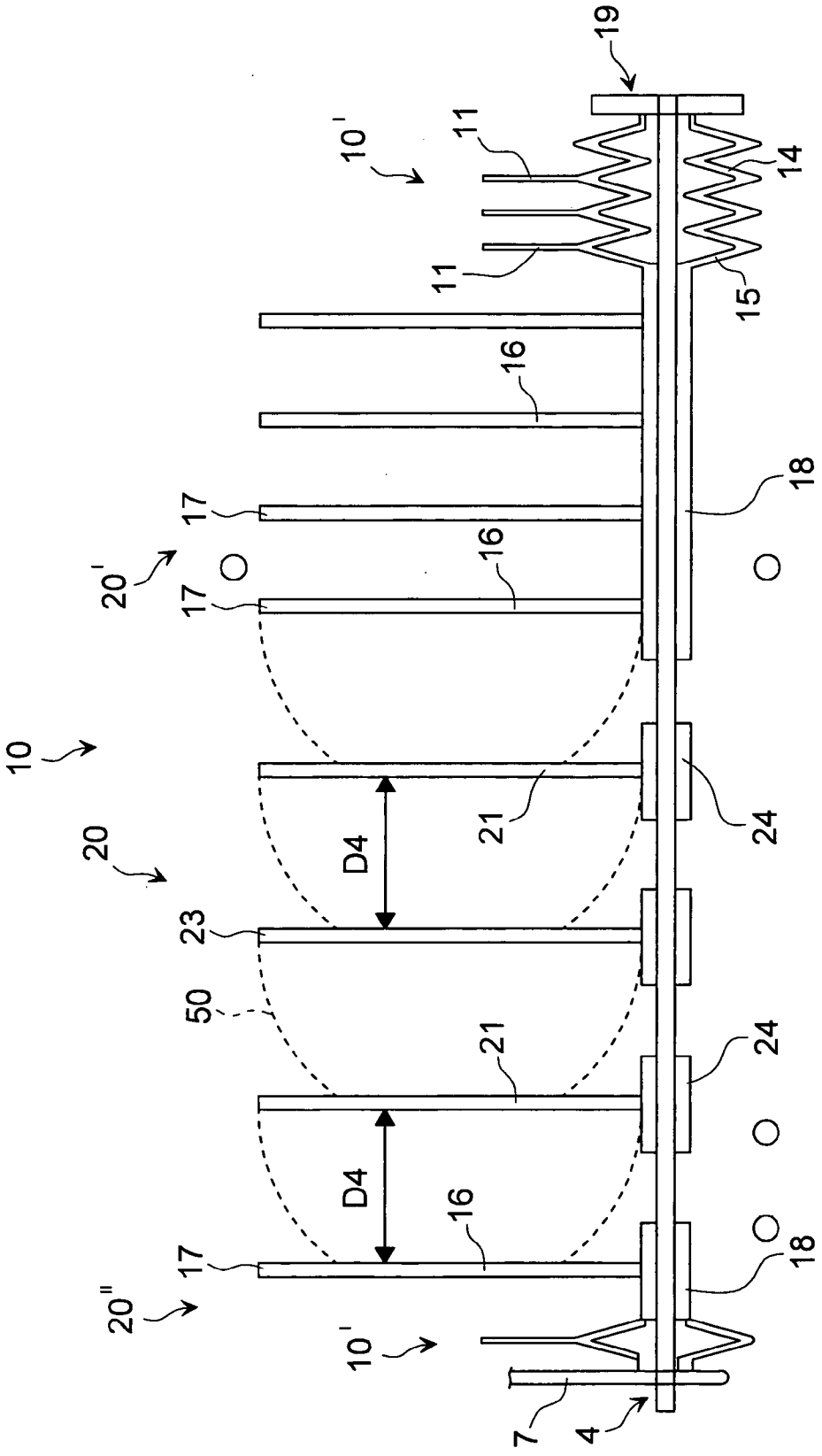
19
10'
11
14
11
15
16
18
17
16
20'
17
10
21
24
20
D4
23
50
21
24
D4
16
18
17
20"
10'
7
4

Fig.2

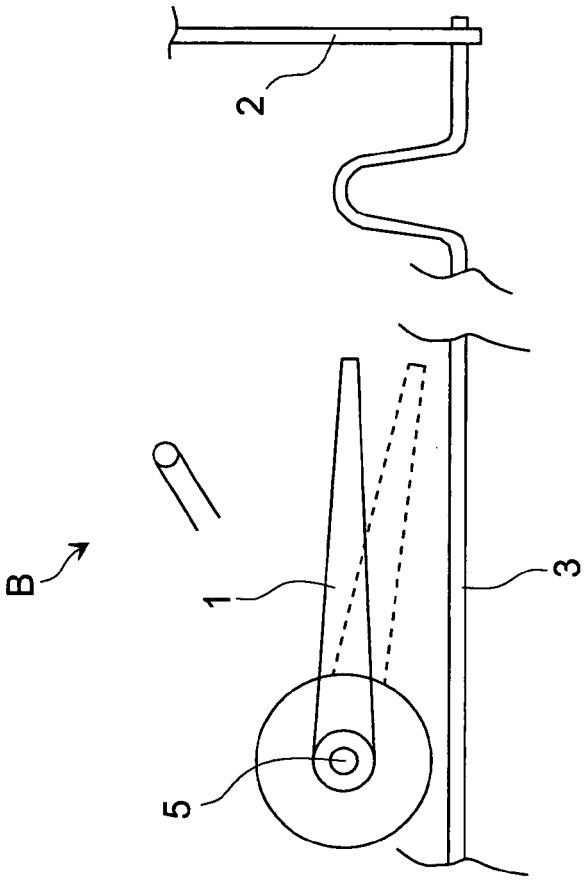


Fig.4

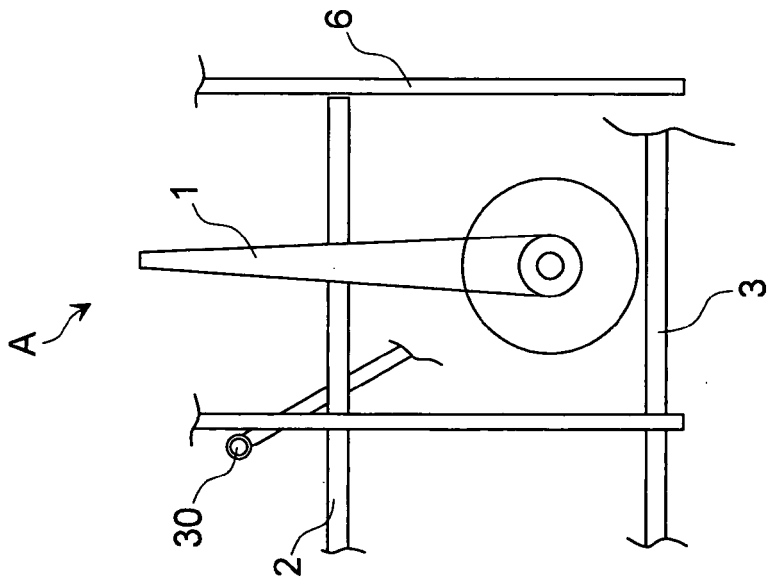


Fig.3

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# EUROPEAN SEARCH REPORT

Application Number
EP 09 42 5456

## DOCUMENTS CONSIDERED TO BE RELEVANT

| Category | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim | CLASSIFICATION OF THE APPLICATION (IPC) |
|---|---|---|---|
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The present search report has been drawn up for all claims

| Place of search | Date of completion of the search | Examiner |
|---|---|---|
| Munich | 20 April 2010 | Lodato, Alessandra |

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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## ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 09 42 5456

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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