



(11) **EP 1 282 376 B2**

(12) **NEW EUROPEAN PATENT SPECIFICATION**  
After opposition procedure

(45) Date of publication and mention  
of the opposition decision:  
**29.12.2021 Bulletin 2021/52**

(45) Mention of the grant of the patent:  
**30.06.2010 Bulletin 2010/26**

(21) Application number: **01941438.2**

(22) Date of filing: **15.05.2001**

(51) Int Cl.:  
**A47L 15/50<sup>(2006.01)</sup>**

(86) International application number:  
**PCT/TR2001/000020**

(87) International publication number:  
**WO 2001/087133 (22.11.2001 Gazette 2001/47)**

(54) **DISHWASHER BASKET WITH VERTICALLY ADJUSTABLE RACK**

GESCHIRRKORB MIT HÖHENVERSTELLBAREN HALTERN

PANIER DE LAVE-VAISSELLE A ETAGE DE SUPPORT REGLABLE DANS LA DIRECTION VERTICALE

(84) Designated Contracting States:  
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU  
MC NL PT SE TR**  
Designated Extension States:  
**AL LT LV MK RO SI**

(30) Priority: **15.05.2000 TR 200001373**

(43) Date of publication of application:  
**12.02.2003 Bulletin 2003/07**

(73) Proprietor: **Arçelik Anonim Sirketi**  
**34445 Istanbul (TR)**

(72) Inventors:  
• **EKSERT, Semsettin,**  
**c/o Arçelik A.S.**  
**Istanbul 81719 (TR)**  
• **ÜSTÜNER, Asli,**  
**c/o Arçelik A.S.**  
**34950 Ystanbul (TR)**  
• **ALTUN, Ümit,**  
**c/o Arçelik A.S.**  
**Istanbul 81719 (TR)**

• **YALMAN, Can,**  
**c/o Arçelik A.S.**  
**Istanbul 81719 (TR)**

(74) Representative: **Grünecker Patent- und  
Rechtsanwälte**  
**PartG mbB**  
**Leopoldstraße 4**  
**80802 München (DE)**

(56) References cited:  
**EP-A- 0 937 436 EP-A1- 0 401 767**  
**EP-A2- 0 788 763 CH-A- 279 164**  
**DE-A1- 3 022 484 DE-A1- 3 417 744**  
**DE-A1- 19 926 962 DE-U1- 8 335 417**  
**DE-U1- 8 506 151 FR-A- 1 407 947**  
**FR-A- 2 775 180 GB-A- 1 041 880**  
**GB-A- 1 269 935 GB-A- 2 321 394**  
**US-A- 4 726 475 US-A- 5 480 035**  
**US-A- 5 553 936 US-A- 5 823 211**

**EP 1 282 376 B2**

**Description**

**[0001]** The present invention is related to adjusting the height of the foldable racks present in the dishwasher baskets in order to provide a more efficient use of said dishwasher baskets.

**[0002]** The basket used in the dishwashers is made of wire that are brought together in various shapes. Foldable racks that are fixedly attached to the side wall wires of the basket, at parallel or inclined angles with the base plane of the basket are provided in the upper basket in order to hold at right or inclined angles and to space apart such crockery as cups, mugs, and the like to facilitate their washing. These foldable racks that are formed in a parallel or inclined manner to the base plane of the basket and that are attached to said basket with a secure fitting, provide an increase in the area on which cups, mugs, glasses and the like can be placed. While the relatively shorter glasses are being placed on the rack, the foldable rack is brought to a position which is parallel to the basket and thus provides a place for a second row of glasses or cups. When relatively longer glasses are to be washed, the foldable rack is brought to an upright position to provide sufficient space for their lengths. In case the foldable racks are held stationary, the use of the rack is not possible if a medium sized glass is placed below the foldable rack.

**[0003]** In prior art document, UK Patent Application No 2321394, disclosed are foldable racks that function as supports for the crockery placed in the basket, when brought to an upright position.

**[0004]** In the European Patent Application No. 937436, the foldable racks are so designed as to allow larger kitchen utensils and glasses, mugs, etc. to be placed on them.

**[0005]** The object of the present invention is to enhance the washing capacity of the basket by making the foldable racks also vertically adjustable.

**[0006]** The foldable racks realized in order to attain the above mentioned object of the present invention has been illustrated in the attached drawings, wherein;

Figure 1, is the general view of the basket when vertically adjustable racks in horizontal position.

Figure 2, is the side detail view of the basket with the vertically adjustable racks in horizontal position.

Figure 3, is the general view of the basket when one of the vertically adjustable racks is in horizontal position and other in an upright position.

Figure 4, is the exploded view of the vertically adjustable rack.

Figure 5, is the view of the vertically adjustable rack at a lower and horizontal position.

Figure 6, is the view of the vertically adjustable rack

at an upper and horizontal position.

**[0007]** The components shown in the drawings have been individually given reference numerals as listed below:

1. Basket
2. Side wall
3. Vertically adjustable rack
4. Support piece
5. Bearing
6. Claws
7. Connection piece
8. Pin
9. Groove
10. Support wire
11. Carrying surface
12. Horizontal side wall, wires
13. Vertical side wall wires

**[0008]** The dishwasher basket (1) is made by welding together the wires arranged vertically and horizontally, on the base plate. Particularly by welding the wires which are given an inclination upwards from the base plane to the wires arranged vertically and horizontally, on the base plane makes it possible to keep the crockery at a certain angle. Vertically adjustable racks (3) are mounted onto the basket side walls (2) in order to increase the washing capacity of the dishwasher. The capacity for washing such crockery as cups, mugs and the like, is increased by bringing the vertically adjustable racks (3) to a horizontal position, when required, whereas they are brought to an upright position when longer glasses are to be washed.

**[0009]** The vertically adjustable rack (3) consists of a carrying surface (11) on which the crockery such as cups, mugs etc. are placed; bearings (5) which form the rotational axis of the vertically adjustable rack (3); support pieces (4) that prevent the vertically adjustable rack (3) from making an undesirable rotational movement when the crockery such as cups, mugs etc. are placed; claws (6) that enable the vertically adjustable rack (3) to be held at the desired height and connection pieces (7) that enable the vertically adjustable rack (3) to be attached to the side wall (2) of the basket.

**[0010]** When the vertically adjustable rack (3) is being attached to the side wall (2) of the basket, first the connection parts (7) are engaged to the bearings (5). The connection parts (7) comprises a pin (8) that provides the rotation of the vertically adjustable rack (3) using the bearings (5) as the rotational axis and a groove (9) that enables the vertically adjustable rack (3) to be attached to the side wall (2) of the basket. The vertically adjustable racks (3) are vertically movable on the side wall (2) at the point of connection. However this movement is limited by the horizontal side wall wires (12) located below and above the rack.

**[0011]** The vertical side wall wires (13) are placed on

the side wall (2) of the basket (1). The connection parts (7) are attached on the vertical side wall wires (13).

**[0012]** Said vertically adjustable racks (3) can be held at three different positions depending on the requirements of the user. It is brought to an upright position (position A) by pivoting it around the bearings (5) when it is not used. In this position, relatively longer glasses, etc. can be placed in the basket (1).

**[0013]** The vertically adjustable rack (3) can also be used in two other positions, namely in a lower horizontal position (position B) and an upper horizontal position (position C).

**[0014]** When the vertically adjustable rack (3) is at an upright (A) position, the connecting part (7) rests against the horizontal side wall wire (12) of the basket. The vertically adjustable rack (3) is pivoted around the bearing (5) to be brought from the upright position (A) to the lower horizontal position (B). This pivoting movement is terminated when the support pieces (4) contact the side wall (2). At this position, such crockery as cups, mugs, etc. can be placed under the vertically adjustable rack (3) and other crockery can be placed on the carrying surface (11). The weight of the objects placed on the carrying surface (11) is balanced by the force applied by the support pieces (4) on the side wall (2) of the basket, and consequently an inadvertent rotation of the vertically adjustable rack (3) is prevented.

**[0015]** While bringing the vertically adjustable rack (3) from the upright position (A) to the upper horizontal position (C), the vertically adjustable rack (3) is pulled upwards. This pulling movement is terminated at the point where the connecting part (7) rests against the horizontal side wall wire (12) of the basket. Then, the vertically adjustable rack (3) is pivoted about the bearing. This pivoting movement is terminated when the claws (6) engage to the supporting wire (10) on the side wall (2) of the basket and the support pieces (4) and claws (6) touch the side wall (2) at this position, such crockery as cups, mugs, etc. can be placed under the vertically adjustable rack (3) and other crockery can be placed on the carrying surface (11). The weight of the objects placed on the carrying surface (11) is balanced by the force applied by the support pieces (4) and claws (6) on the side wall (2) of the basket, and consequently inadvertent rotation of the vertically adjustable rack (3) is prevented. Furthermore the claws (6) resting against the support wire (10) prevents the vertically adjustable rack (3) from sliding down.

**[0016]** In the baskets (1) of the present invention, optionally one or more vertically adjustable rack (3) can be used. Said vertically adjustable racks (3) can be brought to an upright or to one of the folded positions, as required, independently with respect to each other. Thus an efficient use of the basket (1) is provided.

## Claims

1. A dishwasher basket (1) comprising a vertically adjustable rack (3) that comprises a carrying surface (11) on which the crockery such as cups, mugs etc. are placed, the vertically adjustable rack (3) further comprising bearings (5) which form the rotational axis of the vertically adjustable rack (3), and support pieces (4) that prevent the vertically adjustable rack (3) from making an undesirable rotational movement when the crockery such as cups, mugs etc. are placed, **characterized in that** the vertically adjustable rack (3) can be held at three different positions, an upright position (position A), a lower horizontal position (position B) and an upper horizontal position (position C), wherein the vertically adjustable rack (3) is brought to the upright position (position A) by pivoting it around the bearings (5), wherein the vertically adjustable rack (3) further comprises claws (6) that enable the vertically adjustable rack (3) to be held at the desired height, and wherein the vertically adjustable rack (3) further comprises connection pieces (7) that are engaged to the bearings (5) and enable the vertically adjustable rack (3) to be attached to the side wall (2) of the basket, wherein the connection pieces (7) comprise a pin (8) providing rotation of the vertically adjustable rack (3) using the bearings (5) as the rotational axis and a groove (9) that enables the vertically adjustable rack (3) to be attached to the side wall (2) of the basket (1), and wherein the vertically adjustable rack (3) consists of the carrying surface (11), the bearings (5), the support pieces (4), the claws (6) and the connection pieces (7).
2. A dishwasher basket (1) according to Claim 1, **characterized by** a horizontal support wire (10) located on the sidewall (2) of the basket (1) against which the claws (6) rest.
3. A dishwasher basket (1) according to Claim 2, **characterized by** a horizontal support wire (10) located on the side wall (2) of the basket (1), which is not intersecting the vertical side wall wires (13) on which the connection parts (7) are attached and against which the claws (6) rest.
4. A dishwasher basket (1) according to any one of the previous claims, **characterized in that** the connection pieces (7) are attached to the vertical side wall wires (13).
5. A dishwasher basket (1) according to any one of the previous claims, **characterized in that** the vertically adjustable rack (3) is vertically movable on the side wall (2) and this movement is limited by the horizontal side wall wires (12) located below and above the vertically adjustable rack (3).

6. A dishwasher basket (1) according to any one of the previous claims, **characterized in that**, at the upright (A) position, the connecting part (7) rests against the horizontal side wall wire (12) of the basket.
7. A dishwasher basket (1) according to Claim 2, **characterized in that** at the upper horizontal position (C), the claws (6) rest against the support wire (10) and prevent the vertically adjustable rack (3) from sliding down.
8. A dishwasher basket (1) according to any one of the previous claims, **characterized in that**, at the lower horizontal position (B), the support pieces (4) contact the side wall (2) and the connecting part (7) rests against the horizontal side wall wire (12) of the basket.

#### Patentansprüche

1. Geschirrspülerkorb (1), der ein vertikal einstellbares Gestell (3) umfasst, das eine Tragefläche (11) umfasst, auf der das Geschirr, wie z.B. Tassen, Becher usw., abgestellt wird, wobei das vertikal einstellbare Gestell (3) ferner Lager (5), die die Drehachse des vertikal einstellbaren Gestells (3) bilden, und Trageelemente (4) umfasst, die verhindern, dass das vertikal einstellbare Gestell (3) eine unerwünschte Drehbewegung vollzieht, wenn das Geschirr, wie z.B. Tassen, Becher usw., abgestellt wird, **dadurch gekennzeichnet, dass** das vertikal einstellbare Gestell (3) in drei unterschiedlichen Positionen gehalten werden kann, einer aufrechten Position (Position A), einer unteren horizontalen Position (Position B) und einer oberen horizontalen Position (Position C), wobei das vertikal einstellbare Gestell (3) in die aufrechte Position (Position A) gebracht wird, indem es um die Lager (5) herum geschwenkt wird, wobei das vertikal einstellbare Gestell (3) des Weiteren Klauen (6) umfasst, die es ermöglichen, das vertikal einstellbare Gestell (3) auf der gewünschten Höhe zu halten, und wobei das vertikal einstellbare Gestell (3) des Weiteren Verbindungselemente (7) umfasst, die in die Lager (5) eingreifen und es ermöglichen, das vertikal einstellbare Gestell (3) an der Seitenwand (2) des Korbes anzubringen, wobei die Verbindungselemente (7) einen Stift (8), der als die Rotationsachse Drehung des vertikal einstellbaren Gestells (3) mittels der Lager (5) vorsieht, und eine Nut (9) umfassen, die es ermöglicht, das vertikal einstellbare Gestell (3) an der Seitenwand (2) des Korbes (1) anzubringen, und wobei das vertikal einstellbare Gestell (3) aus der Tragefläche (11), den Lagern (5), den Trageelementen (4), den Klauen (6) und den Verbindungselementen (7) besteht.

2. Geschirrspülerkorb (1) nach Anspruch 1, **gekennzeichnet durch** einen horizontalen Stützdraht (10), der an der Seitenwand (2) des Korbes (1) angeordnet ist, und an dem die Klauen (6) ruhen.

3. Geschirrspülerkorb (1) nach Anspruch 2, **gekennzeichnet durch** einen horizontalen Stützdraht (10), der an der Seitenwand (2) des Korbes (1) angeordnet ist, der die vertikalen Seitenwanddrähte (13) nicht schneidet, an denen die Verbindungselemente (7) angebracht sind und an dem die Klauen (6) ruhen.

4. Geschirrspülerkorb (1) nach einem der vorangehenden Ansprüche, **dadurch gekennzeichnet, dass** die Verbindungselemente (7) an den vertikalen Seitenwanddrähten (13) angebracht sind.

5. Geschirrspülerkorb (1) nach einem der vorangehenden Ansprüche, **dadurch gekennzeichnet, dass** das vertikal einstellbare Gestell (3) vertikal an der Seitenwand (2) beweglich ist und diese Bewegung durch die horizontalen Seitenwanddrähte (12) begrenzt wird, die unter und über dem vertikal einstellbaren Gestell (3) angeordnet sind.

6. Geschirrspülerkorb (1) nach einem der vorangehenden Ansprüche, **dadurch gekennzeichnet, dass** das Verbindungselement (7) in der aufrechten Position (A) an dem horizontalen Seitenwanddraht (12) des Korbes ruht.

7. Geschirrspülerkorb (1) nach Anspruch 2, **dadurch gekennzeichnet, dass** die Klauen (6) in der oberen horizontalen Position (C) an dem Stützdraht (10) ruhen und verhindern, dass das vertikal einstellbare Gestell (3) herabrutscht.

8. Geschirrspülerkorb (1) nach einem der vorangehenden Ansprüche, **dadurch gekennzeichnet, dass** in der unteren horizontalen Position (B) die Trageelemente (4) in Kontakt mit der Seitenwand (2) stehen und das Verbindungselement (7) an dem horizontalen Seitenwanddraht (12) des Korbes ruht.

#### Revendications

1. Panier de lave-vaisselle (1) comprenant un égouttoir verticalement ajustable (3) qui comprend une surface de support (11) sur laquelle de la vaisselle telle que les tasses, les mugs etc. sont placés, l'égouttoir verticalement ajustable (3) comprenant en outre des tourillons (5) qui forment l'axe de rotation de l'égouttoir verticalement ajustable (3), et qui supportent des pièces (4) qui empêchent l'égouttoir verticalement ajustable (3) d'effectuer un mouvement de rotation indésirable lorsque de la vaisselle telle que les tasses, les mugs etc. sont mis en place, **caractérisé**

- en ce que** l'égouttoir verticalement ajustable (3) peut être maintenu à trois positions différentes, une position verticale (position A), une position horizontale inférieure (position B) et une position horizontale supérieure (position C), l'égouttoir verticalement ajustable (3) étant porté jusqu'à la position verticale (position A) en le faisant pivoter autour des tourillons (5), l'égouttoir verticalement ajustable (3) comprenant en outre des griffes (6) qui permettent à l'égouttoir verticalement ajustable (3) d'être maintenu à la hauteur souhaitée, et l'égouttoir verticalement ajustable (3) comprenant en outre des pièces de raccord (7) qui sont engagées au niveau des tourillons (5) et qui permettent à l'égouttoir verticalement ajustable (3) d'être fixé à la paroi latérale (2) du panier, les pièces de raccord (7) comprenant une goupille (8) fournissant la rotation de l'égouttoir verticalement ajustable (3) en utilisant les tourillons (5) comme axe de rotation et une rainure (9) qui permet à l'égouttoir verticalement ajustable (3) d'être fixé à la paroi latérale (2) du panier (1), et l'égouttoir verticalement ajustable (3) étant constitué de la surface de support (11), des tourillons (5), des pièces de support (4), des griffes (6) et des pièces de raccord (7).
2. Panier de lave-vaisselle (1) selon la revendication 1, **caractérisé par** un fil de support horizontal (10) localisé sur la paroi latérale (2) du panier (1) contre lequel les griffes (6) reposent.
3. Panier de lave-vaisselle (1) selon la revendication 2, **caractérisé par** un fil de support horizontal (10) localisé sur la paroi latérale (2) du panier (1), qui n'est pas en intersection avec les fils de paroi latérale verticale (13) sur lesquels les pièces de raccord (7) sont fixées et contre lesquels les griffes (6) reposent.
4. Panier de lave-vaisselle (1) selon l'une quelconque des revendications précédentes, **caractérisé en ce que** les pièces de raccord (7) sont fixées aux fils de paroi latérale verticale (13).
5. Panier de lave-vaisselle (1) selon l'une quelconque des revendications précédentes, **caractérisé en ce que** l'égouttoir verticalement ajustable (3) est verticalement mobile sur la paroi latérale (2) et ce mouvement est limité par les fils de paroi latérale horizontale (12) localisés en-dessous et au-dessus de l'égouttoir verticalement ajustable (3).
6. Panier de lave-vaisselle (1) selon l'une quelconque des revendications précédentes, **caractérisé en ce que**, à la position verticale (A), la pièce de raccord (7) repose contre le fil de paroi latérale horizontale (12) du panier.
7. Panier de lave-vaisselle (1) selon la revendication 2, **caractérisé en ce que** à la position horizontale supérieure (C), les griffes (6) reposent contre le fil de support (10) et empêchent l'égouttoir verticalement ajustable (3) de glisser vers le bas.
8. Panier de lave-vaisselle (1) selon l'une quelconque des revendications précédentes, **caractérisé en ce que**, à la position horizontale inférieure (B), les pièces de support (4) entrent en contact avec la paroi latérale (2) et la pièce de raccord (7) repose contre le fil de paroi latérale horizontale (12) du panier.

Figure 1

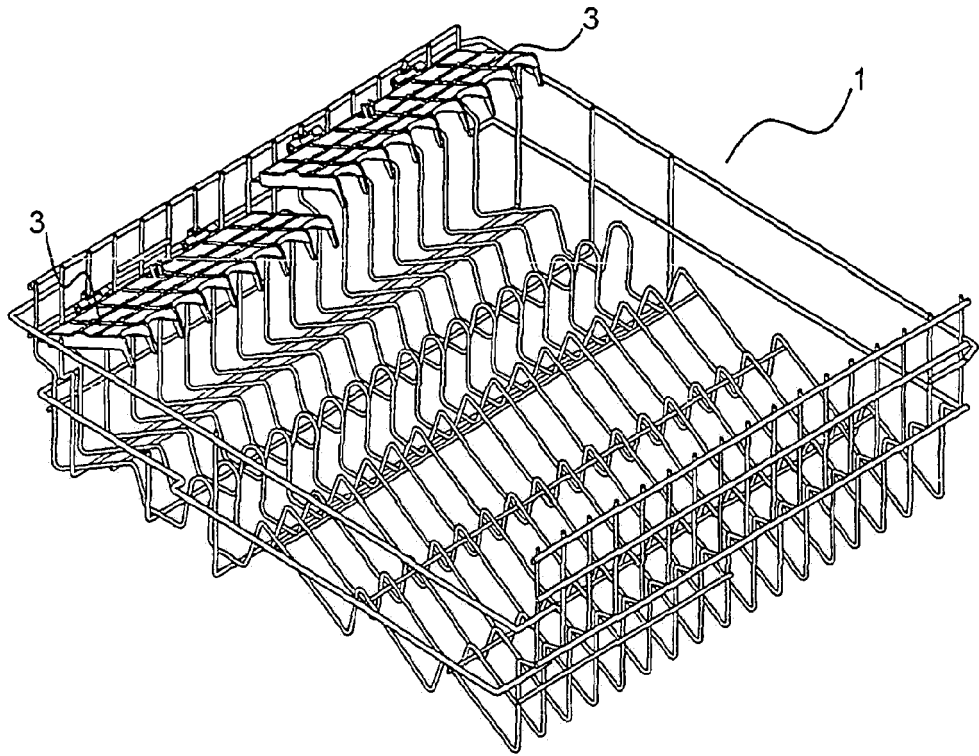


Figure 2

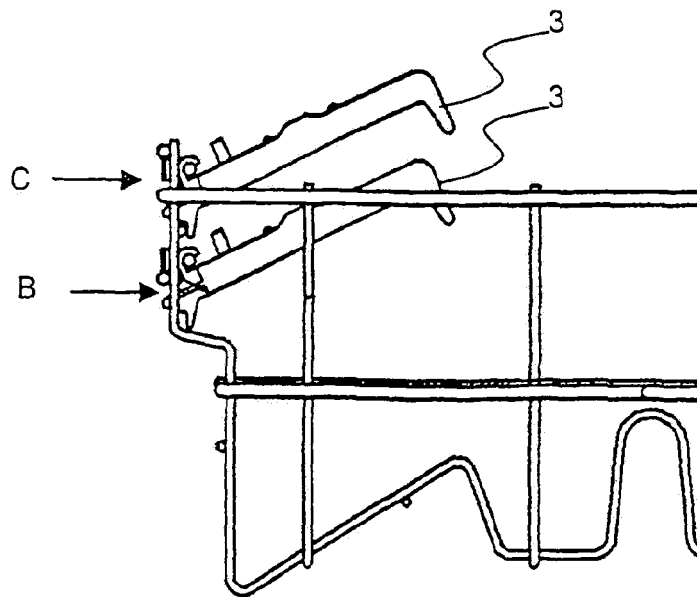




Figure 5

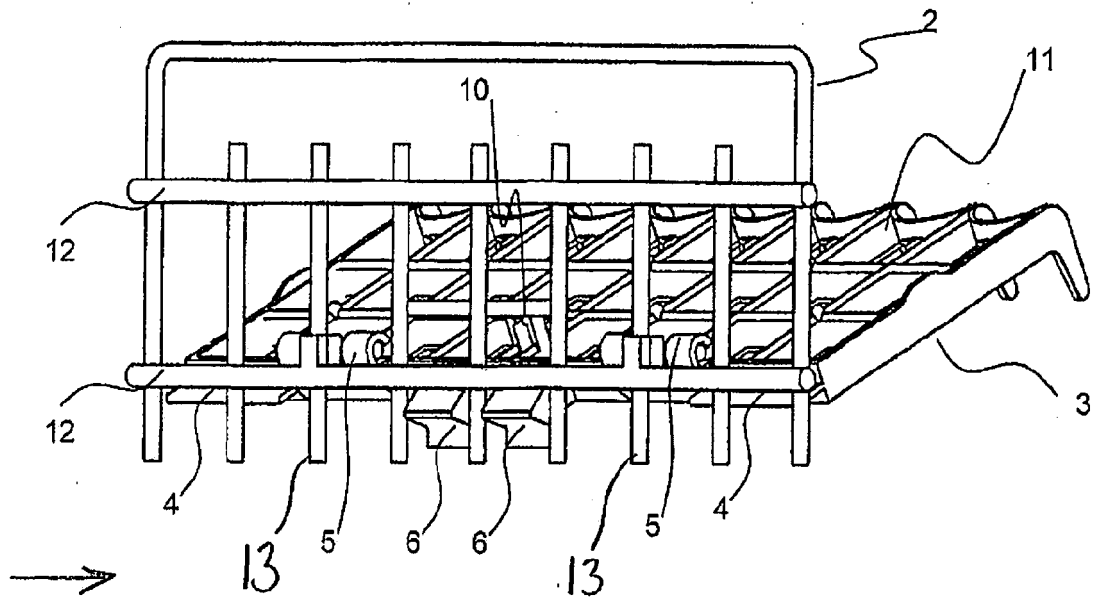
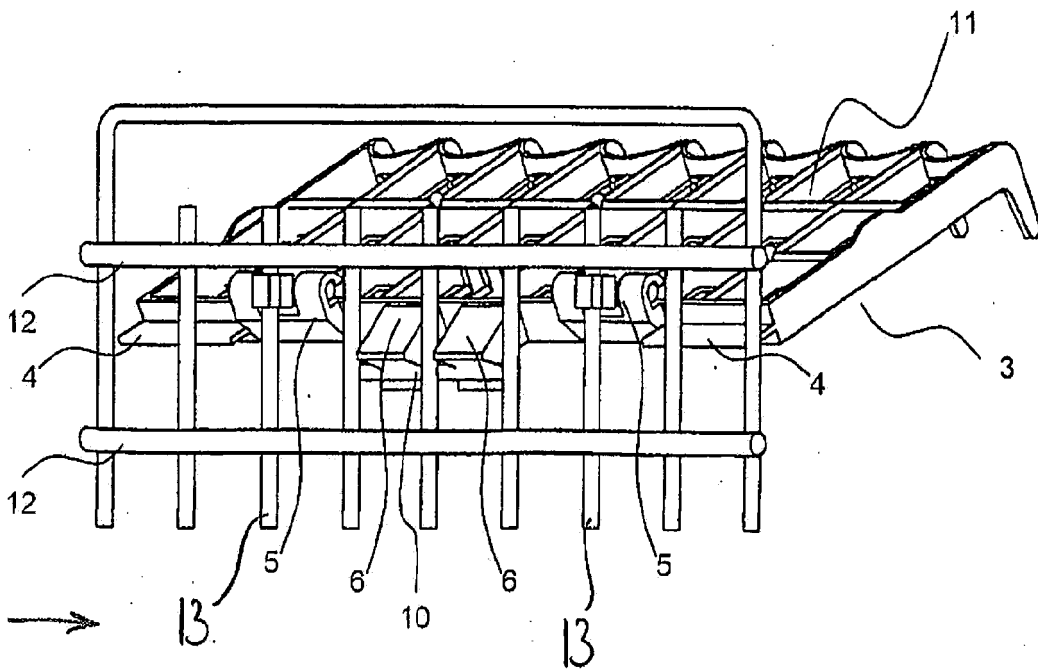


Figure 6



**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**

- GB 2321394 A [0003]
- EP 937436 A [0004]