

(19)



(11)

EP 1 929 928 B1

(12)

EUROPEAN PATENT SPECIFICATION

(45) Date of publication and mention
of the grant of the patent:
22.02.2012 Bulletin 2012/08

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

(21) Application number: **08101091.0**

(22) Date of filing: **21.11.2006**

(54) **Dishwasher rack**

Spülmaschinengestell

Panier pour lave-vaisselle

(84) Designated Contracting States:
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI
SK TR**

(43) Date of publication of application:
11.06.2008 Bulletin 2008/24

(62) Document number(s) of the earlier application(s) in
accordance with Art. 76 EPC:
06124455.4 / 1 925 251

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WO-A-01/87133 DE-U1- 8 335 417

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Description

Technical Field

[0001] This invention is related to a height adjustable rack which is installed to the basket located in a dishwasher to receive the dirty dishes.

Prior Art

[0002] The heights of the cup racks which are used to increase the capacity of the upper baskets of dishwashers to receive the dirty dishes, are located on the right and the left edges of the basket and can be positioned so as to make a specific angle both with the horizontal and the vertical can be adjusted in order to allow the dirty dishes such as glasses or plates of different sizes to be washed. In the present systems, various mechanisms are used in order to adjust the height of the rack.

[0003] In the prior art, the patent document W02005/037050 contains superposed catch structures which are constructed to allow the basket to be positioned at different levels on the side wires in order to allow the height adjustment of the racks which are positioned on the side wires of the dishwasher basket. In order to allow rack to stand balanced, there are two catch structures at a specific distance apart and at the same level to which every rack can be installed. The bar shaped structures which are located on the rear side of the racks are installed and secured to the catches at the desired height, thus allowing the height of the rack to be adjusted. In this system, however, there may be experienced some problems while the racks are being installed to the catches; in addition, the racks can disengage from the catches while the racks are being brought to upright position and the rack should be separated from the basket each time in order to allow the height of the rack to be adjusted.

[0004] In the system disclosed in patent document TR 2002 00878, a pin which contains a catch structure in its middle having a form that can move throughout the vertical axis of the basket wire is inserted and secured into the grooves which are located on the rear side of the cup rack in order to allow the height of the cup rack positioned on the side walls of the upper basket of dishwashers to be adjusted, thus it is allowed cup rack to be positioned at different heights when the groove structure installed to said cup rack moves throughout the vertical axis of the basket wires. The downward sliding of the rack is prevented with a support member placed perpendicular to the vertical wires which are located on the side of the basket. The pin which is secured on the rear side of the rack constitutes the rotation axis of the rack while it shifts from the horizontal position to the vertical position. In this system, however, the cup rack can only be positioned at two specific heights and cannot be brought to the upper levels of the support member. In addition, the pin which is secured on the rear side of the rack comes out from a second mold. As a consequence thereof, the mounting

of this pin to the rack requires extra work.

[0005] On the rear side of an embodiment of a dishwasher rack, there are fitting housings of which inside is in the form of a thin and long channel. These housings are installed to the vertical wires of the basket and it is allowed the height of the rack to be adjusted by moving it up and down and the rack to be opened and closed. Besides, it is allowed rack to be secured to the basket with the grippers located on the rear side of the rack. In addition, the rack is allowed to stand at the vertical position without falling through the grippers which are located on the top surface of the rack. The bearing surfaces in the form of a channel which are located on the lower side of the fitting housings help rack to rest on the vertical wires of the basket when it is in the inclined position and to be secured at different heights also with the effect of the friction force. Apart from these, since the dishwasher rack comes out from a single mold, it does not require any extra mounting works.

Aim of the invention

[0006] An aim of this invention is to allow the height of the rack located on the dishwasher basket to be adjusted at the desired level according to the size of the dirty dishes to be placed below or above thereof.

[0007] Another aim of the invention is to allow the height adjustment of the rack without separating it from the basket.

[0008] The other aim of the invention is to ensure the rack to keep its position without slipping down due to the weights put on it when it is in the inclined position.

[0009] Another aim of the invention is to ensure the rack to make a specific angle with the horizontal when it is in the inclined position in order to prevent the water accumulation on the dirty dishes located on the rack during washing.

[0010] The other aim of the invention is to decrease the swinging and allow the rack to remain balanced on the position where it is installed by ensuring that the bearing surfaces which rest on the vertical wires of the basket are constructed in the form of a channel, the rear grippers stick to the vertical wires with force-fit and the width of the channel in the fitting housings is close to the width of the wire.

[0011] The invention is solely defined by the appended claims.

Description of the Drawings

[0012] An embodiment of the rack acc. to the invention is shown in the attached drawings, wherein:

Fig. 1 is a top perspective view of the dishwasher racks where they are installed to the basket.

Fig. 2 is a top perspective view of the rack.

Fig. 3 is a top view of the rack fitting housing.

Fig. 4 is a perspective view of the rack fitting housing

and the bearing surface.

Fig. 5 is a rear perspective view of the rack in the opened position.

Fig. 6 is a side view of the rack in the opened position.

Fig. 7 is a rear perspective view of the rack in the closed position.

Fig. 8 is a side view of the rack in the closed position.

Fig. 9 is a side view of the racks which are installed to the basket at different heights.

Fig. 10 is a perspective view of a rack where a flexible material is positioned on its rear side.

Fig. 11. is a perspective view of the rack where the wine glasses are positioned.

Fig. 12. is a detailed top view of the wine glass holders on the rack.

Fig. 13. is a detailed top view of the wine glass holders on the rack.

Fig. 14. is a perspective view of the rack where the plates are positioned.

[0013] The parts in the figures are numbered one by one and the corresponding terms of these numbers are given below.

Basket (1)
Vertical wires (2)
Rack (3)
Wine glass slot (3a)
Wine glass slot (3b)
Wine glass holder (3C)
Holding arm (3E, 3E')
Fitting housing (4)
Rear gripper (5)
Upper gripper (6)
Bearing surface (7)
Horizontal wires (8)
Rear surface (9)
Top surface (10)
Horizontal position angle (α)
Fitting housing angle (β)
Channel (13)
Opening (14)
Flexible material (15)
Wine glass (16)
Wine glass stem (16a)
Wine glass stem (16b)
Plate (17)

Disclosure of an embodiment of the Invention

[0014] Fig. 1 provides a top perspective view of the rack (3) where it is secured to a dishwasher basket (1). In the figure, the opened and the closed positions of the rack (3) are shown in order to increase the capacity of the basket (1) to receive the dirty dishes. The opened position is the position of the rack (3) where it is inclined and brought to a state in which the dirty dishes can be placed thereon. The closed position is the position where

the rack (3) is brought to the vertical position.

[0015] The dishwasher rack (3) of which top perspective view is provided in fig. 2 comprises at least one fitting housing (4) which is positioned on the rear surface (9) so as to allow rack (3) to stand slanted in the opened position (shown in fig. 9), extends outwards from the rear surface (9) and is used for up and down movement of the rack (3) on the vertical wires (2) in the basket (1); at least one bearing surface (7) in the form of a channel where the vertical wires (2) rest on the inner surface thereof when the rack (3) is in the opened position and which is located on the lower side of the fitting housings (4) and on the rear surface (9) of the rack; at least one rear gripper (5) which is used in order to prevent the change of the position that it keeps due to any contacts while there are dirty dishes on the rack (3) by sticking to the vertical wires (2) when the rack (3) is in the opened position, and located on said rear surface (9); at least one upper gripper (6) which is used in order to prevent the change of the position of the rack (3) by sticking to the vertical wires (2) when the rack (3) is in the closed position and located on the top surface (10) of the rack (3). The distances between said fitting housings (4), bearing surfaces (7), rear grippers (5) and upper grippers (6) are formed such that each corresponds to the vertical wires (2).

[0016] Fig. 3 provides a top view of the fitting housing (4) whereas fig. 4 provides a perspective view of the fitting housing (4) and the bearing surface (7). In order to allow the height adjustment of the rack (3) without completely separating it from the basket (1) and facilitate the movement of the rack (3) between the opened and closed positions thereof, the fitting housing (4) has a structure in the form of "C", its inner side is formed by a thin and long channel (13) and the vertical wire (2) can be passed through the opening (14) which extends towards the outside from the side of the channel (13). When the vertical wire (2) fits into said channel (13), because of the long structure of the channel (13), the rack (3) can make a rotational movement relative to the vertical wire (2). On the other hand, by keeping the width of said channel (13) close to the width of the wire therein, the left and right movement of the rack relative to basket (1) is prevented.

[0017] Fig. 5 provides a rear perspective view of the rack (3) in the opened position where it is mounted to the vertical wires (2) and fig. 6 provides a side view thereof in the same position. The rack (3) is brought to the desired height by moving the fitting housings (4) up and down on the vertical wires (2), then it is brought to the opened position at the height desired to be secured and the rear grippers (5) are installed to the vertical wires (2) so as to obtain a force-fit. At this position, the bearing surfaces (7) also rest on the vertical wires (2). The weights of the dirty dishes placed on the rack (3) increase the friction on the surfaces (7) which rest on the vertical wires (2).

[0018] In addition to this, when the rear gripper (5) sticks to the vertical wires (2), it is ensured the position that the rack (3) keeps to remain unchanged due to any

contacts while there are dirty dishes thereon in this position and allowed rack to remain at the desired height.

[0019] In addition, at the time of washing, in order to prevent the water accumulation on the dirty dishes which are placed on the rack (3), the fitting housing (4), as shown in fig. 9, is positioned on the rear surface (9) so as to allow rack (3) to stand slanted in the opened position.

[0020] Fig. 7 provides a perspective view of the rack (3) in the closed position where it is mounted to the basket (1) and fig. 8 provides a side view thereof in this position. By reducing the rack (3) to the level of the horizontal wire (8) which is located in the basket (1) when the rear grippers (5) located on the rear surface (9) of the rack (3) are separated from the vertical wires (2) and the fitting housing (4) is slipped on the vertical wires (2), the fitting housing (4) is allowed to rest on the horizontal wire (8) and by bringing the rack (3) to the closed position, the upper grippers (6) are secured to the vertical wires (2) and thus the rack (3) is allowed to remain in the closed position without overturning.

[0021] With the invention, the height of the rack (3) which is located on the dishwasher basket (1) can be adjusted at the desired level according to the size of the dirty dishes to be placed thereunder and there is no need to separate the rack (3) from the basket (1) for this adjustment process. In addition, by ensuring that the bearing surfaces (7) which rest on the vertical wires (2) of the basket (1) are constructed in the form of a channel, the rear grippers (5) stick to the vertical wires (2) with force-fit and the width of the channel (13) in the fitting housings (4) is close to the width of the wire, it is prevented rack to move right and left at the position where it is installed and this reduces the swinging of the rack and allow it to remain balanced.

[0022] In another embodiment of the invention, as shown in fig. 10, the flexible materials (15) have been positioned on the rear surface (9) of the rack (3). These materials (15) are provided on the areas contacting the basket wires on the rear surface (9) in order to allow rack (3) to remain at different heights in the opened position without slipping. The materials with high friction coefficient are especially preferred as flexible material (15). Since the flexible materials (15) make a friction-increasing effect during their contact with the basket wires they help rack (3) to stand at the desired position.

[0023] As mentioned above, the rack (3) can be installed to the vertical wire (2) from the opening (14) in the fitting housing (4) in a single move and the vertical wire (2) seats into said channel (13). Therefore, convenience is provided for the mounting of the rack (3) to the basket (1). In addition, the production of the rack (3) as single-piece eliminates the need for mounting work in the production of the rack (3).

[0024] Figures 11-13 shows an alternative embodiment of the invention. In order to position the wine glasses (16) in the basket (1) of the dishwasher, wine glass holders (3C) are provided on the front parts of the racks(3).

The placement of wine glasses (16) of various height and sizes in the basket (1) is highly important. The fact that the wine glasses (16) are in general of longer structure compared to other kitchen utensils, causes them to fall in the basket (1). In particular, when there are few dishes in the basket (1), it is required to enable the wine glasses (16) to stand balanced in their positions. For this reason, wine glass holders (3C) are provided on the front parts of the racks (3) in such a way that they grip the stems of the wine glasses (16a, 16b). Each holder (3C) has a structure of "C" and/or "V" form which is interlocked to some extent and arranged side by side along the front section of the rack (3). The part between the adjacent arms (3E, 3E') of each adjoining holder (3C) is the housing slot (3a) of a wine glass stem (16a) as illustrated in Figure 13. Similarly, the part which is formed between the adjoining arms (3E, 3E') of the two holders (3C) adjacent to each holder (3C) is a housing slot (3b) for another sample of wine glass stem. To enable the stems (16a, 16b) to be fastened to slots (3a, 3b), the holders (3C) are of flexible. In addition, each arm (3E, 3E') is formed as curved downward with respect to the rack (3). In this way, easier entrance of the wine glass stems (16a, 16b) into the slots (3a, 3b) is provided. Moreover, it becomes possible to place the wine glasses of various lengths since the height and the angle of rack (3) in the basket (1) is adjustable. [0025] Figure 14 shows a perspective view of the racks (3) of the present invention where the plates (17) are positioned. In this way it is possible to prevent the plates (17) from toppling by placing them (17) on the dishwasher basket (1) in such a way that the upper sides of them will be between the arms which are curved downward (3E, 3E') of the wine glass holders. Since the rack (3) can be opened and closed, it is also possible to position plates (17) of various diameters between the arms (3E, 3E').

Claims

1. A dishwasher rack (3) which is installed to the basket on said basket in a dishwasher and of which height on said basket is adjustable, **characterized in that** the rack (3) which is produced as single-piece comprises:

at least one fitting housing (4) which extends outwards from a rear surface (9) of said rack and is used for up and down movement of the rack (3) on vertical wires (2) in the basket (1) and for opening and closing the rack (3), wherein the opened position of the rack (3) is the inclined position of the rack (3), and the closed position of the rack (3) is the vertical position of the rack (3) ;

at least one bearing surface (7) in the form of a channel where the vertical wires (2) rest on the inner surface thereof when the rack (3) is in the opened position and which is located on the low-

- er side of the said at least one fitting housing (4) and
on the rear surface (9) of the rack said at least one;
at least one rear gripper (5) which sticks to the vertical wires (2) so as to provide a force-fit when the rack (3) is in the opened position, and is used to prevent the change of the position that the rack (3) keeps due to any contacts and is located on said rear surface (9);
holders (3C) formed in the front part of the rack (3) for gripping the stems (16a,16b) of wine glasses.
2. A dishwasher rack (3) according to the claim 1, wherein not only for the movement of the rack (3) between the opened and the closed positions thereof but also in order to allow the height adjustment of the rack without completely separating it from the basket (1), the fitting housing (4) has a structure in the form of "C", where its inner side is formed by a thin and long channel (13) through which a vertical wire (2) can be passed and a opening (14) which extends towards the outside from the side of the channel (13).
3. A dishwasher rack (3) according to the claim 1, wherein it further comprises at least one upper gripper (6) which is used in order to prevent the change of the position thereof by sticking to the vertical wires (2) when it is in the closed position, wherein said upper gripper is located on an upper surface (10) of the rack (3).
4. A dishwasher rack (3) according to the claim 1, wherein it further comprises on the rear surface (9) thereof flexible materials (15) with high friction coefficient which are positioned in the areas contacting the basket wires (3), wherein the opened position of the rack (3) is the inclined position of the rack (3), and the closed position of the rack (3) is the vertical position of the rack (3).
5. A dishwasher rack (3) according to the claim 1, **characterized in that** the side by side arrangement of partially overlapped "C" formed structures along the front section of the rack (3) provides for an alternating arrangement of holders (3C) including each a structure of "C" form for placing a wine glass stem (16b) therein and wine glass holders (3C) including each a structure of "V" form for placing a wine glass stem (16a) therein.
6. A dishwasher rack (3) according to the claim 5, **characterized in that** it comprises a housing slot (3a) for a wine glass stem (16a) which is formed between two arms (3E, 3E') extending outwardly from each structure of "V" form.
7. A dishwasher rack (3) according to the claim 5, **characterized in that** two arms (3E,3E') extend outwardly from each structure of "V" form, wherein a housing slot (3b) for a wine glass stem (16b) is formed between the nearest arms of two neighbouring holders (3C) that include the structure of "V" form.
8. A dishwasher rack (3) according to the claim 6 or 7, **characterized in that** each arm (3E, 3E') is curved downward with respect to said rack (3).

Patentansprüche

1. Spülmaschinengestell (3), das an den Korb (1) in einem Geschirrspüler angebracht ist und dessen Höhe an diesem Korb einstellbar ist, **dadurch gekennzeichnet, dass** das Gestell (3), das einstückig hergestellt ist, umfasst:
- wenigstens ein Befestigungsgehäuse (4), das sich von einer Rückfläche (9) des Gestells nach außen erstreckt und für ein Bewegen des Gestells (3) an vertikalen Drähten (2) des Korbs (1) nach oben und unten und zum Öffnen und Schließen des Gestells (3) verwendet wird, wobei die geöffnete Stellung des Gestells (3) die geneigte Stellung des Gestells (3) ist und die geschlossene Stellung des Gestells (3) die vertikale Stellung des Gestells (3) ist,
- wenigstens eine Lagerfläche (7) in der Form eines Kanals, auf dessen Innenfläche die vertikalen Drähte (2) ruhen, wenn sich das Gestell (3) in der geöffneten Stellung befindet, welche Lagerfläche an der Unterseite des wenigstens einen Befestigungsgehäuses 4 und auf der Rückfläche (9) des Gestells (3) angeordnet ist, wenigstens einen rückseitigen Greifer (5), der auf den vertikalen Drähten (2) stekkend einen Kraftschluss schafft, wenn sich das Gestell (3) in der geöffneten Stellung befindet, und der verwendet wird, um einen Positionswechsel des Gestells (3) aufgrund beliebiger Kontakte zu verhindern und der auf der rückwärtigen Fläche (9) angeordnet ist,
- Halter (3C) ausgebildet an dem vorderen Bereich des Gestells 3 zum Ergreifen der Stiele (16a, 16b) von Weingläsern.
2. Spülmaschinengestell (3) nach Anspruch 1, wobei nicht nur für die Bewegung des Gestells (3) zwischen der geöffneten und der geschlossenen Stellung, sondern außerdem zum Ermöglichen der Höheneinstellung des Gestells ohne dessen vollständige Trennung von dem Korb (1) das Befestigungsgehäuse (4) eine Struktur in Form eines "C" aufweist, wobei deren Innenseite durch einen dünnen und langen Kanal (13) gebildet ist, durch den ein vertikaler Draht

(2) geführt werden kann, und eine Öffnung (14), die sich von der Seite des Kanals (13) in Richtung nach Außen erstreckt.

3. Spülmaschinengestell (3) nach Anspruch 1, wobei dieses des Weiteren wenigstens einen oberen Greifer (6) umfasst, der verwendet wird, um dessen Positionswechsel durch Stecken auf den vertikalen Drähten (2), wenn es sich in der geschlossenen Stellung befindet, zu verhindern, wobei der obere Greifer an einer oberen Fläche (10) des Gestells (3) angeordnet ist. 5
4. Spülmaschinengestell (3) nach Anspruch 1, wobei dieses des Weiteren an seiner Rückfläche (9) flexible Materialien (15) mit hohem Reibungskoeffizienten umfasst, die in Bereichen positioniert sind, die die Korbdrähte (2) kontaktieren. 10
5. Spülmaschinengestell (3) nach Anspruch 1, **gekennzeichnet durch** die nebeneinander liegende Anordnung von teilweise überlappenden "C"-förmigen Strukturen entlang des Frontabschnitts des Gestells (3), die eine abwechselnde Anordnung von Haltern (3C) schafft, die jeweils eine Struktur in "C"-Form zum Anordnen eines Weinglasstiels (16b) darin enthalten, und Weinglashalter (3C), die jeweils eine Struktur in "V"-Form zum Anordnen eines Weinglasstiels (16a) darin enthalten. 15
6. Spülmaschinengestell (3) nach Anspruch 5, **dadurch gekennzeichnet, dass** es einen Aufnahmeschlitz (3a) für einen Weinglasstiel (16a) umfasst, der zwischen zwei Armen (3E, 3E'), die sich von jeder Struktur in "V"-Form nach Außen erstrecken, ausgebildet ist. 20
7. Spülmaschinengestell (3) nach Anspruch 5, **dadurch gekennzeichnet, dass** sich zwei Arme (3E, 3E') von jeder Struktur in "V"-Form nach außen erstrecken, wobei ein Aufnahmeschlitz (3b) für einen Weinglasstiel (16b) zwischen den nächsten Armen der beiden benachbarten Halter (3C) ausgebildet ist, die die Struktur der "V"-Form beinhalten. 25
8. Spülmaschinengestell (3) nach Anspruch 6 oder 7, **dadurch gekennzeichnet, dass** jeder Arm (3E, 3E') bezüglich des Gestells (3) nach unten gebogen ist. 30

Revendications

1. Panier pour lave-vaisselle (3) qui est installé sur le panier (1) dans un lave-vaisselle et dont la hauteur sur ledit panier est ajustable, **caractérisé en ce que** le panier (3), produit comme une pièce unique, comprend : 35

au moins un logement ajusté (4) qui s'étend vers l'extérieur depuis une surface arrière (9) dudit panier et est utilisé pour le mouvement ascendant et descendant du panier (3) sur des fils métalliques verticaux (2) dans le panier (1) et pour l'ouverture et la fermeture du panier (3), dans lequel la position ouverte du panier (3) est la position inclinée du panier (3), et la position fermée du panier (3) est la position verticale du panier (3),
 au moins une surface d'appui (7) sous la forme d'un canal, dans lequel les fils métalliques verticaux (2) reposent sur sa surface intérieure lorsque le panier (3) est dans la position ouverte et qui est situé sur le côté inférieur dudit au moins un logement ajusté (4) et sur la surface arrière (9) du panier (3),
 au moins un dispositif de préhension arrière (5) qui s'attache aux fils métalliques verticaux (2) de sorte à fournir un ajustement serré lorsque le panier (3) est dans la position ouverte, et est utilisé pour éviter le changement de position occupée par le panier (3) dû à tout contact et est situé sur ladite surface arrière (9) ;
 des dispositifs de retenue (3C) formés dans la partie avant du panier (3) pour la préhension de jambes (16a, 16b) de verres à vin.

2. Panier pour lave-vaisselle (3) selon la revendication 1, dans lequel non seulement pour le mouvement du panier (3) entre sa position ouverte et sa position fermée mais aussi dans le but de permettre l'ajustement en hauteur du panier sans le séparer complètement du panier (1), le logement ajusté (4) présente une structure en forme de « C », dans laquelle son côté intérieur est formé par un long canal mince (13) que peut traverser un fil métallique vertical (2) et une ouverture (14) qui s'étend vers le côté extérieur depuis le côté du canal (13). 40
3. Panier pour lave-vaisselle (3) selon la revendication 1, dans lequel il comprend en outre au moins un dispositif de préhension supérieur (6) qui est utilisé dans le but d'éviter son changement de position en s'attachant aux fils métalliques verticaux (2) lorsqu'il est en position fermée, dans lequel ledit dispositif de préhension supérieur est situé sur une surface supérieure (10) du panier (3). 45
4. Panier pour lave-vaisselle (3) selon la revendication 1, dans lequel il comprend en outre sur sa surface arrière (9) des matériaux flexibles (15) présentant un coefficient de friction élevé, positionnés dans les zones touchant les fils métalliques (2) du panier. 50
5. Panier pour lave-vaisselle (3) selon la revendication 1, **caractérisé en ce que** la disposition côte à côte de structures en forme de « C » partiellement recou- 55

vertes le long de la section avant du panier (3) fournit une disposition alternative des dispositifs de retenue (3C) incluant chacun une structure en forme de « C » pour le placement d'une jambe de verre à vin (16b) dedans, et des dispositifs de retenue de verre à vin (3C) incluant chacun une structure en forme de « V » pour le placement d'une jambe de verre à vin (16a) dedans.

6. Panier pour lave-vaisselle (3) selon la revendication 5, **caractérisé en ce qu'il** comprend une fente de logement (3a) pour une jambe de verre à vin (16a) qui est formée entre deux bras (3E, 3E') s'étendant vers l'extérieur depuis chaque structure en forme de « V ». 5
7. Panier pour lave-vaisselle (3) selon la revendication 5, **caractérisé en ce que** deux bras (3E, 3E') s'étendent vers l'extérieur depuis chaque structure en forme de « V », dans lequel une fente de logement (3b) pour une jambe de verre à vin (16b) est formée entre les bras les plus près de deux dispositifs de retenue voisins (3C) qui forment la structure en forme de « V ». 10 15 20
8. Panier pour lave-vaisselle (3) selon la revendication 6 ou 7, **caractérisé en ce que** chaque bras (3E, 3E') est courbé vers le bas par rapport audit panier (3). 25 30

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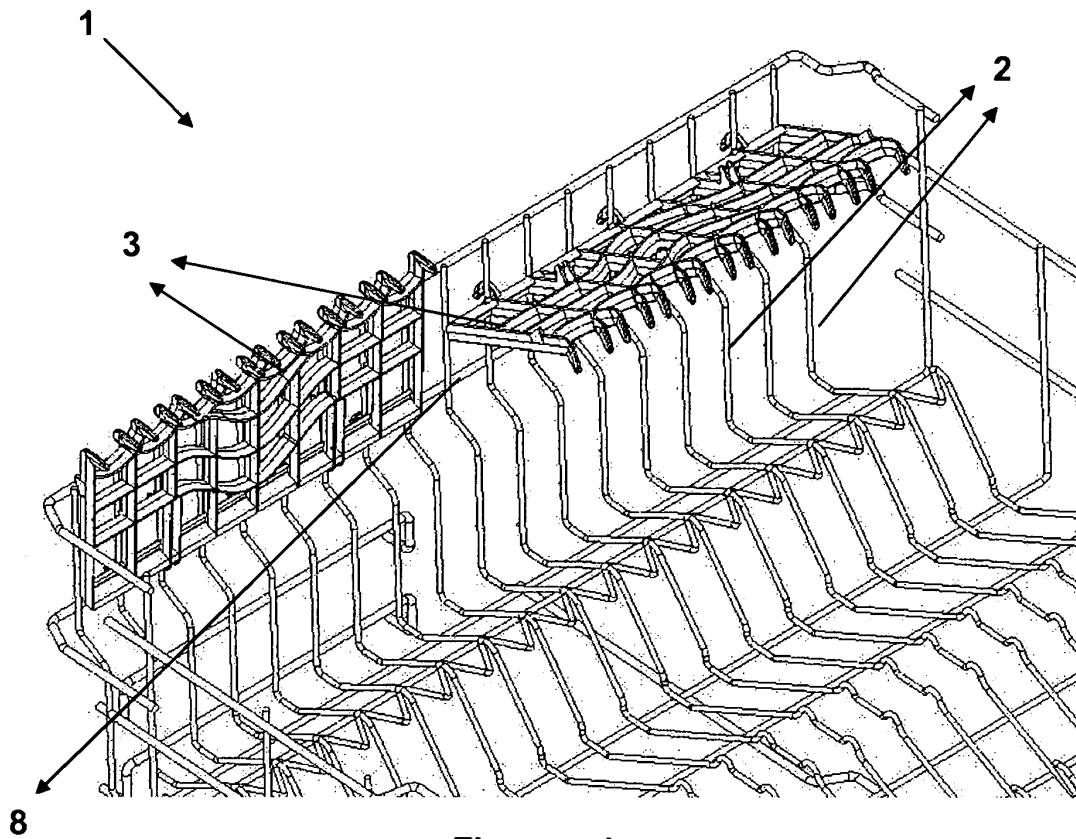


Figure - 1

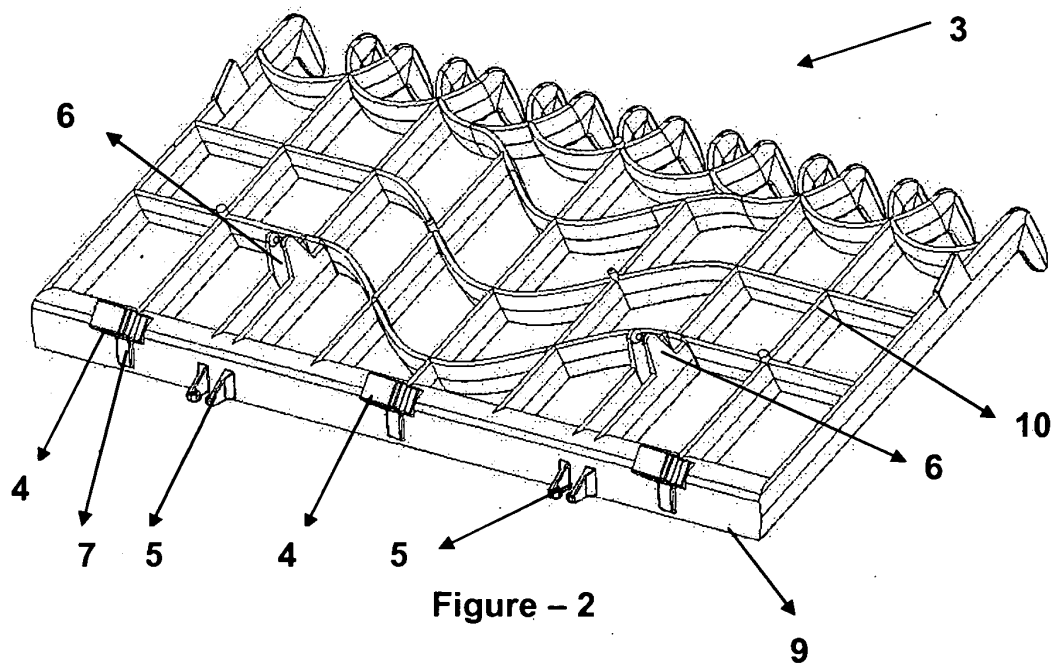


Figure - 2

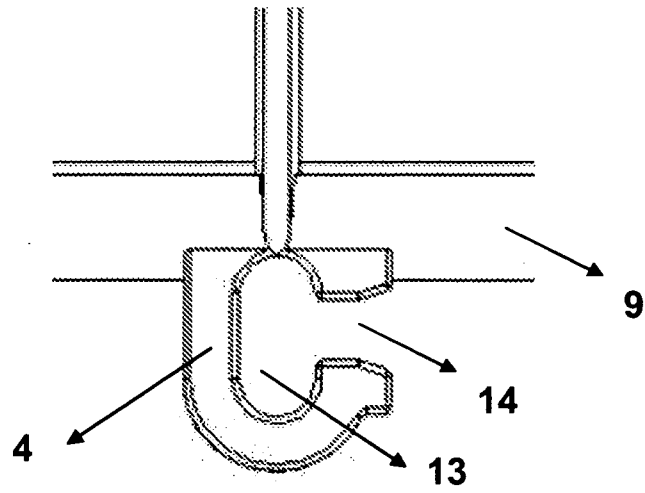


Figure – 3

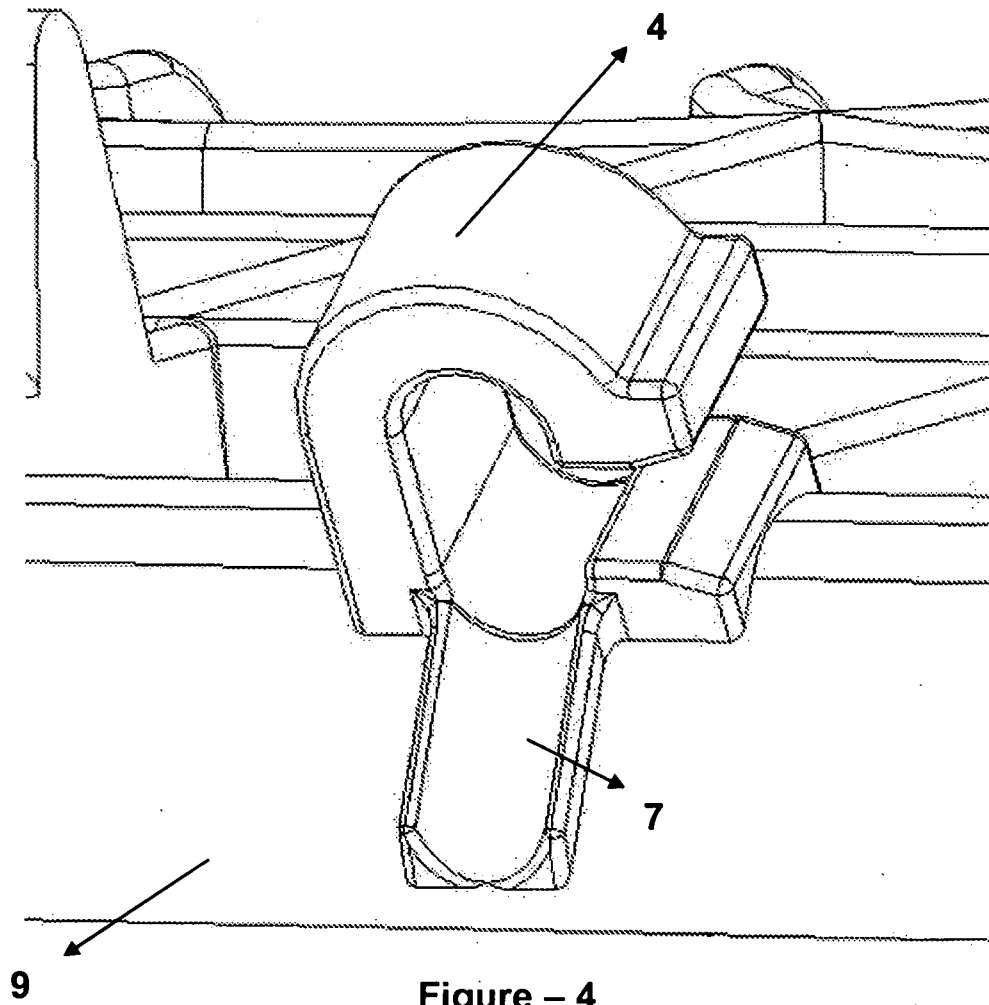


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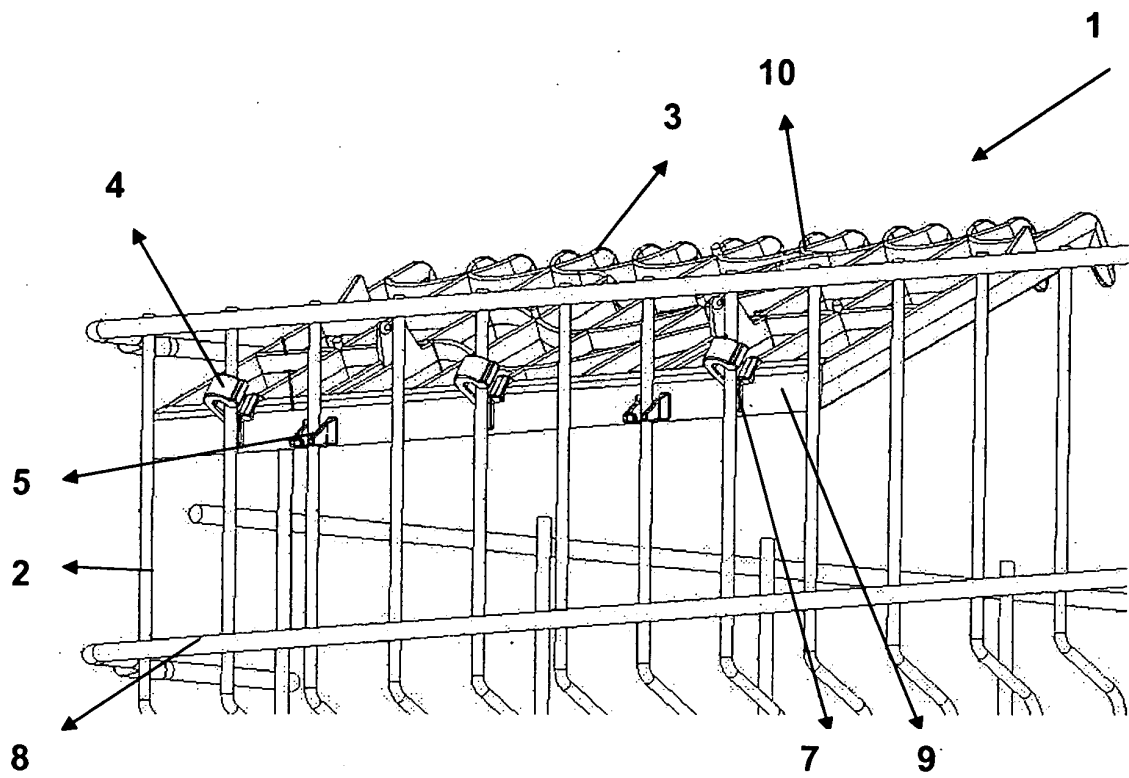


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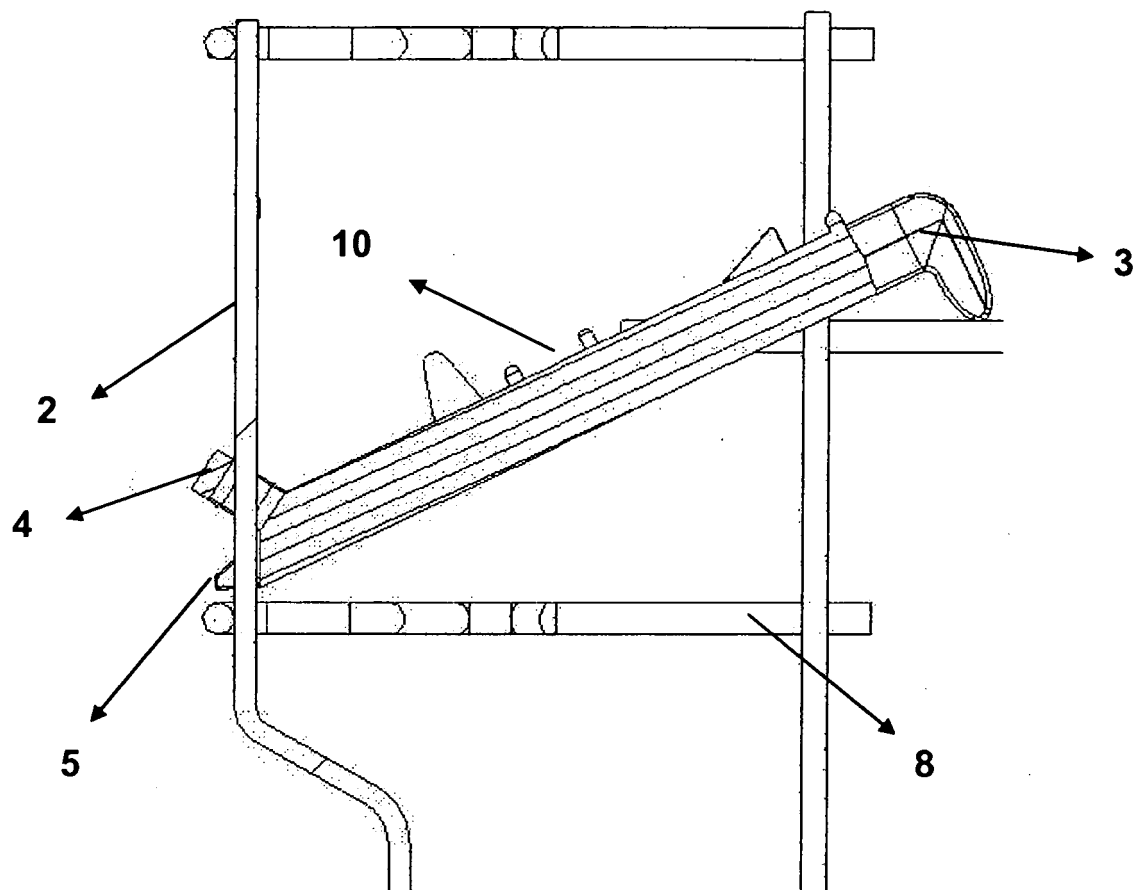


Figure – 6

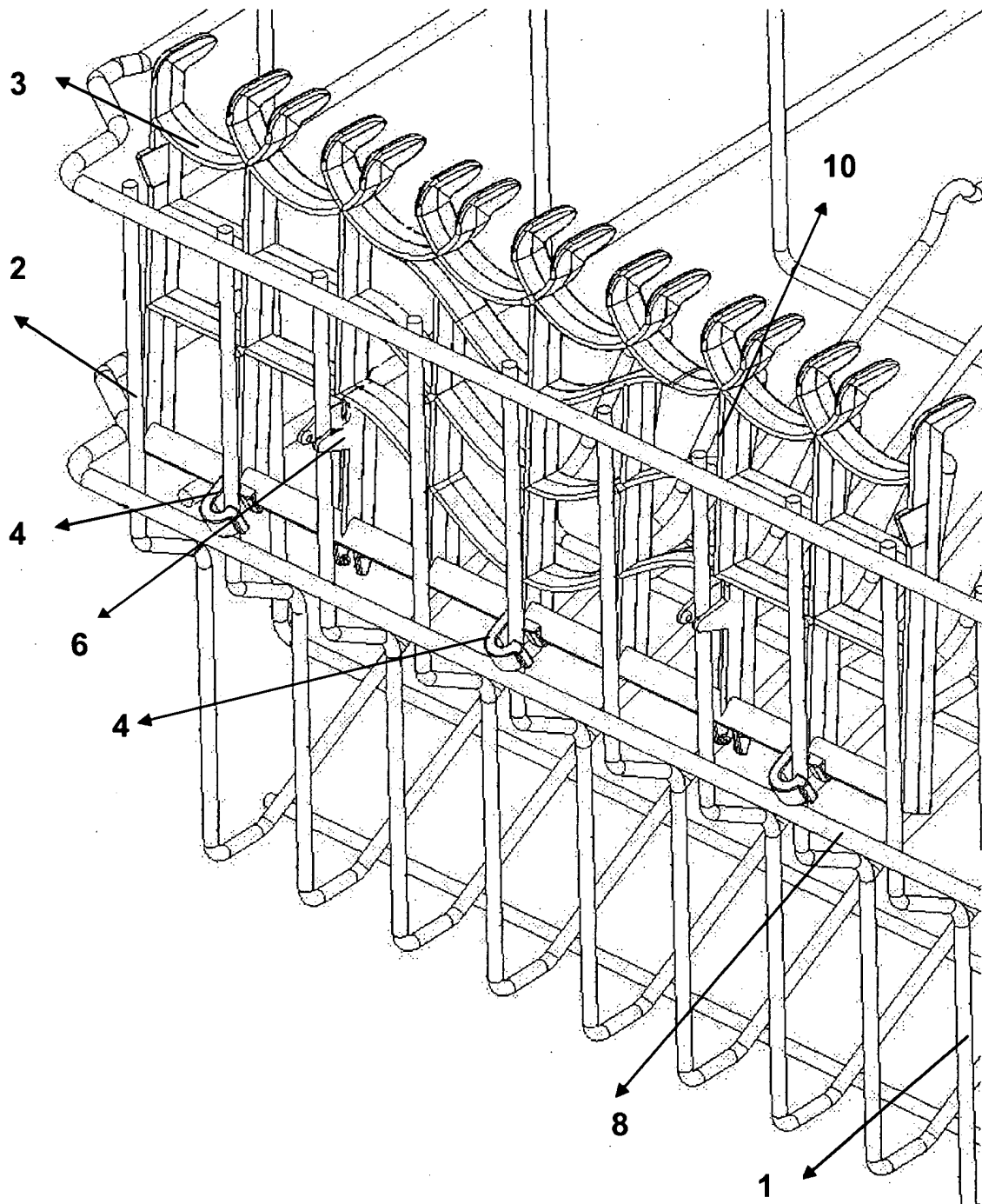


Figure – 7

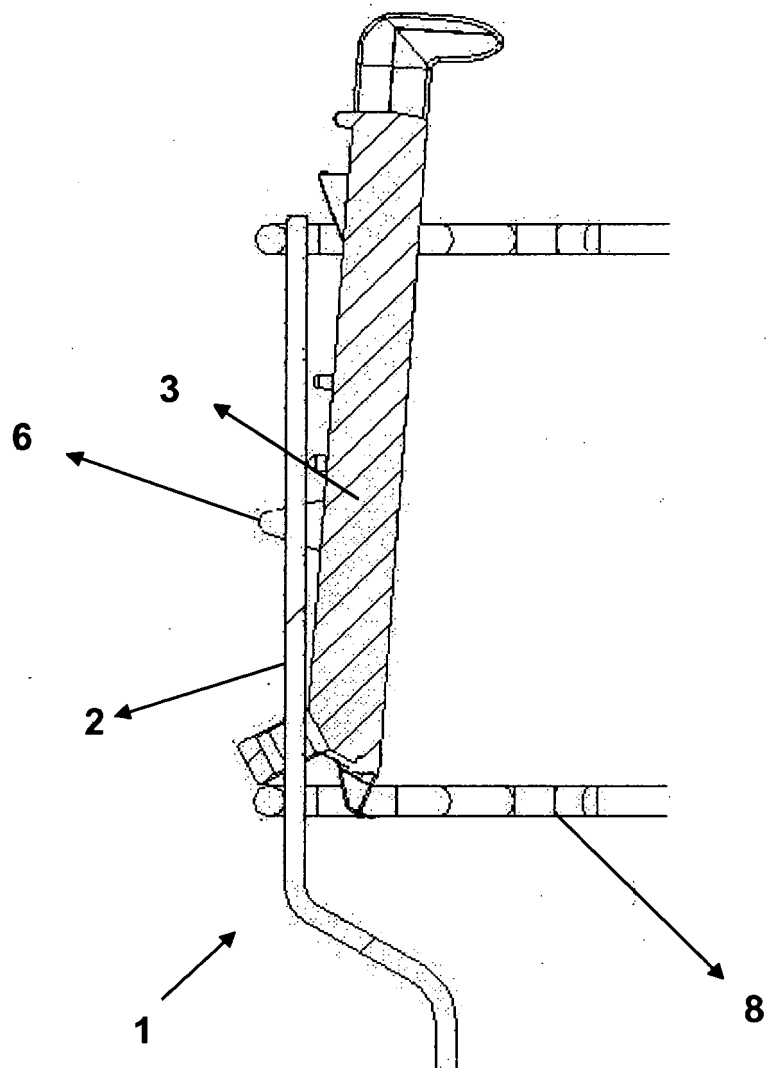


Figure – 8

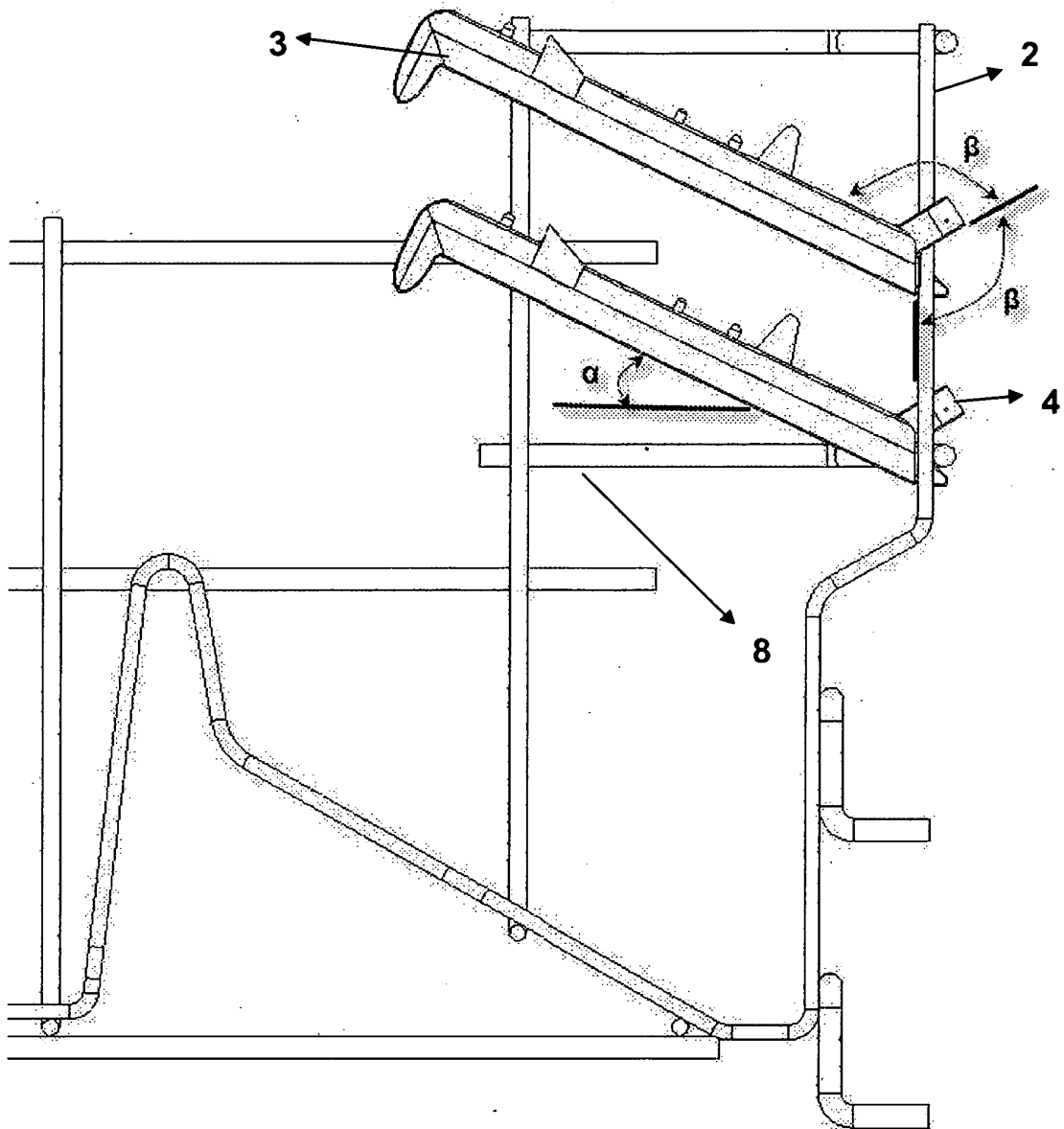


Figure – 9

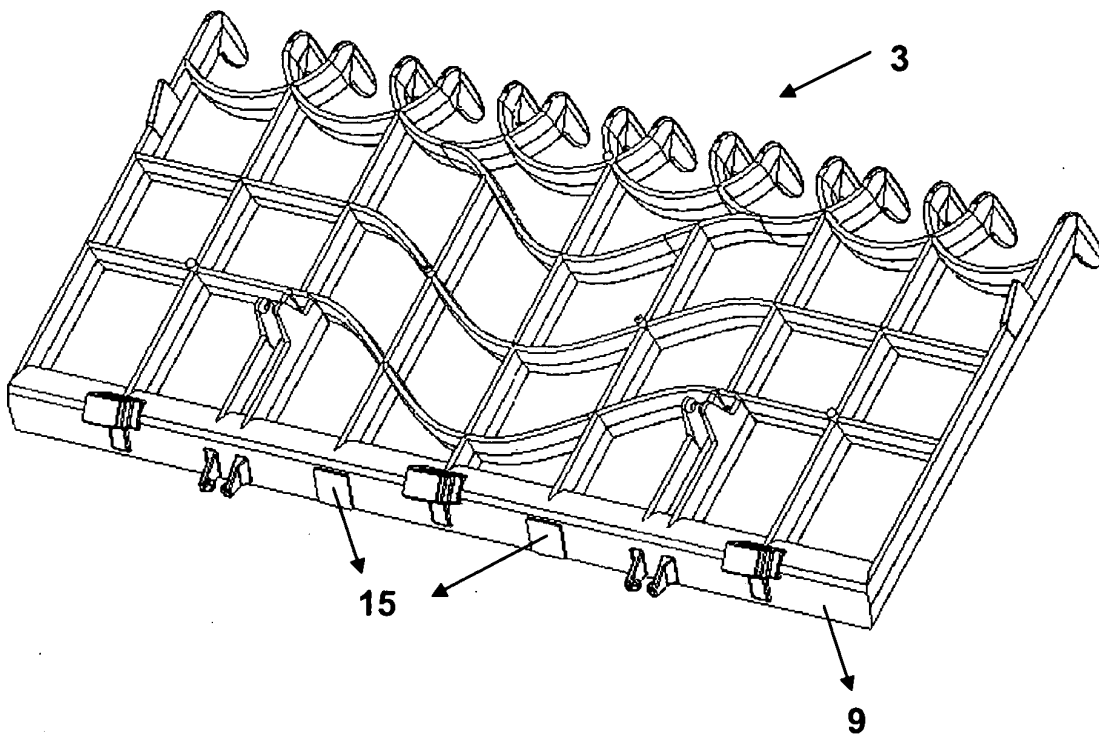


Figure – 10

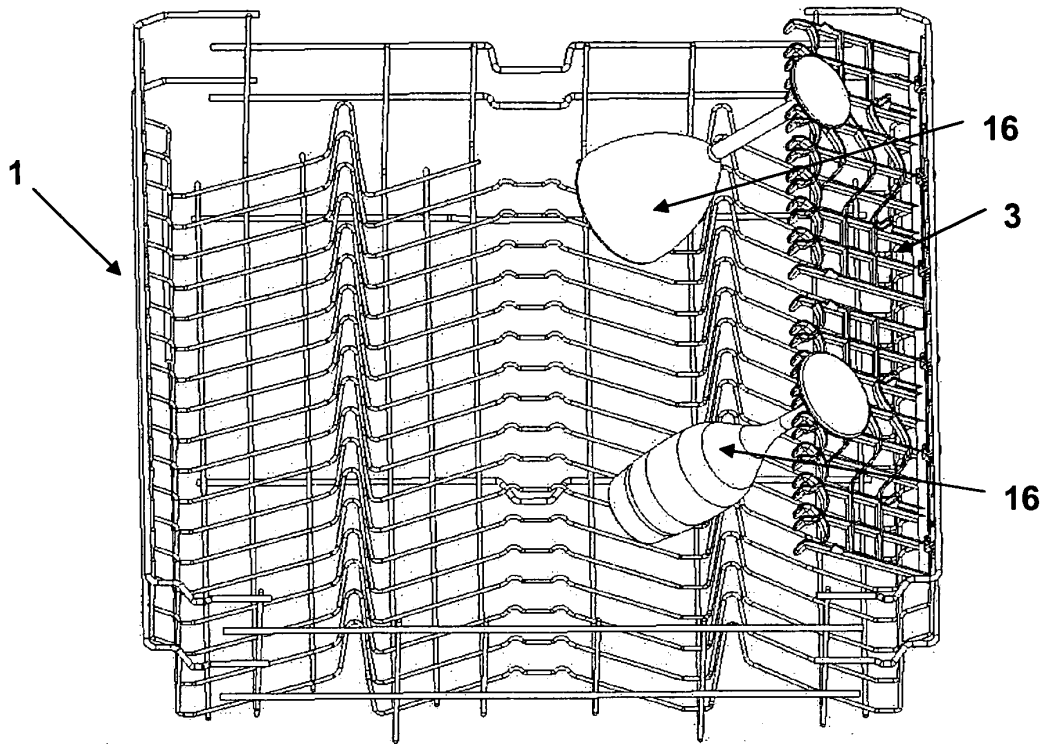


Figure – 11

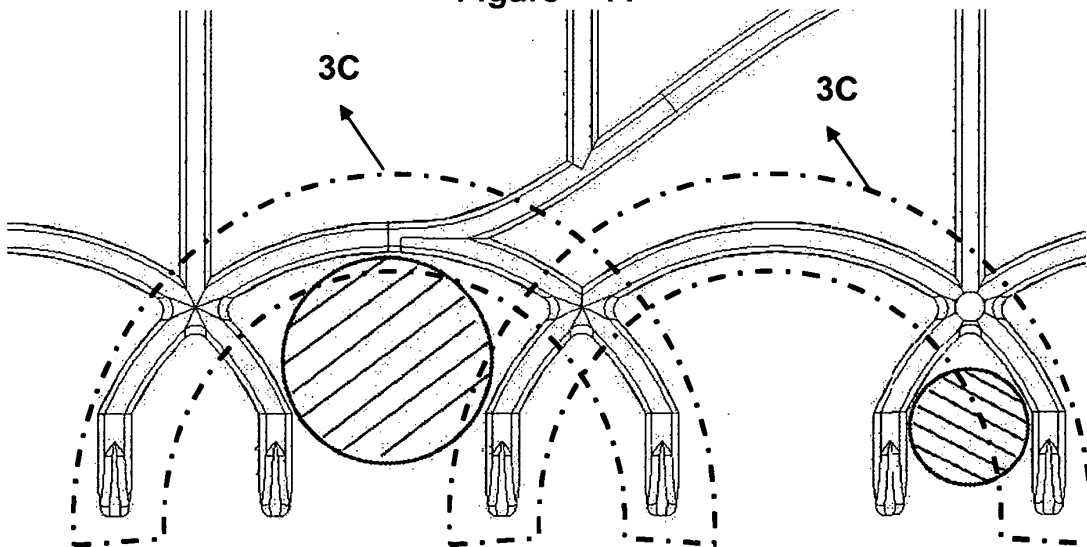


Figure – 12

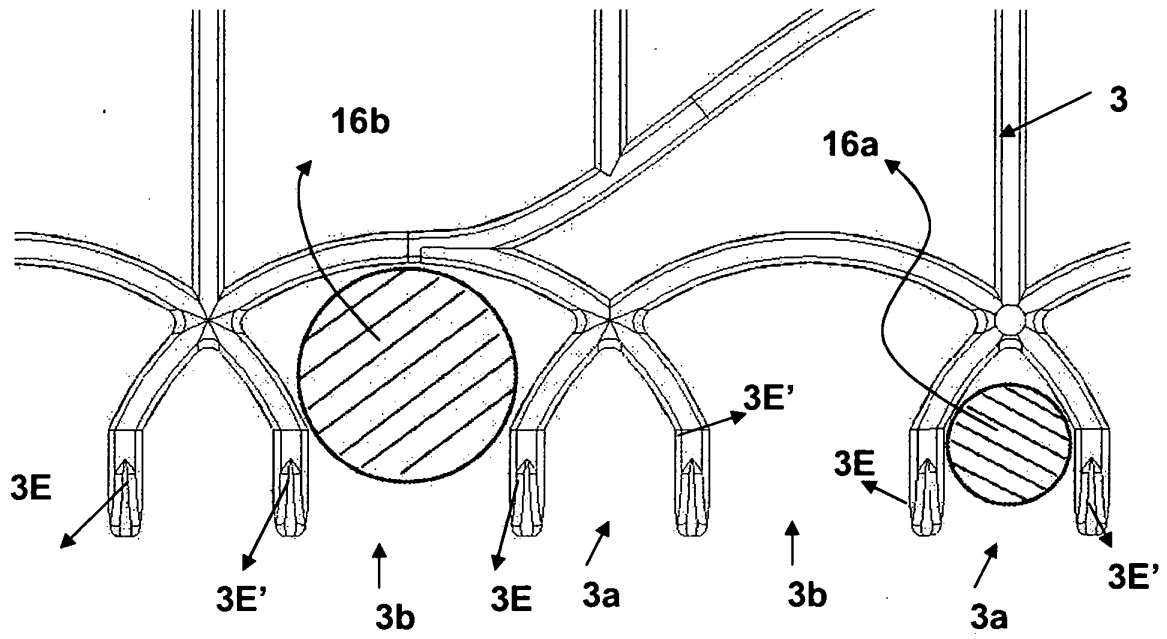


Figure – 13

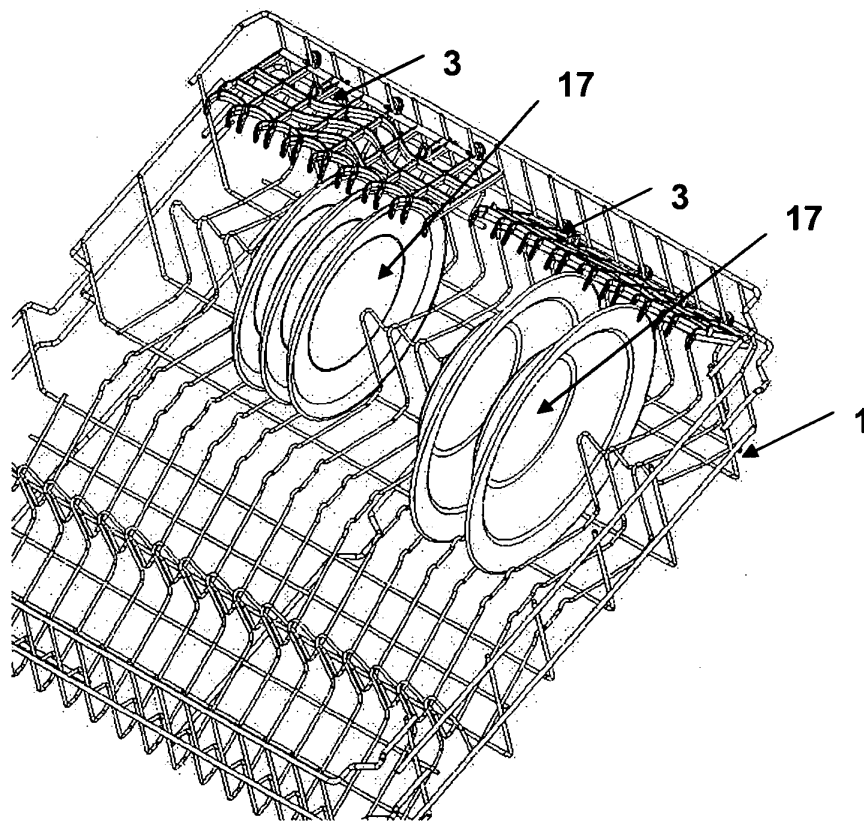


Figure – 14

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- WO 2005037050 A [0003]
- TR 200200878 [0004]