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(54) **A DISHWASHER PROVIDING INTENSIVE WASHING**

GESCHIRRSPÜLMASCHINE ZUR BEREITSTELLUNG VON INTENSIVEM WASCHEN

LAVE-VAISSELLE FOURNISSANT UN NETTOYAGE INTENSIF

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## Description

**[0001]** The present invention relates to a dishwasher which provides intensive washing.

**[0002]** In dishwashers, the washing process is realized by spraying the water received from the main delivery line onto the dishes by means of spray arms. The spraying members provided on the spray arm enable the water to be sprayed onto the dishes at a certain pressure. The flow rate and pressure of the sprayed water are critical in terms of cleaning of the dishes. In the dishwashers, washing areas are formed to clean heavy stains. Additional spraying members are used to clean the stains in the washing areas. The kitchen items placed onto the rack are cleaned with water pressure and detergent. Therefore, the layout of the dishes on the rack is important to perform a highly-efficient washing process. Especially tall kitchen items such as bottles and glasses with a narrow mouth cannot contact water and thus, cannot be cleaned. Therefore, a plurality of arrangement apparatuses are used in dishwashers. However, the arrangement apparatuses occupy additional space and decrease the usable volume of the rack. When not in use, the arrangement apparatuses prevent the proper arrangement.

**[0003]** In the state of the art International Patent Application No. WO2005065519, a dishwasher comprising an intensive washing region is disclosed.

**[0004]** In the state of the art United States Patent Application No. US3064661, a dishwasher comprising a dual cycle, preselectable in accordance with the soil condition of the articles to be cleaned, is disclosed.

**[0005]** In the state of the art German Patent Application No. DE102015103128, a dishwasher is disclosed having a sprayer that is provided on racks, and is positioned to spray a treating liquid onto dishes received by the rack. The sprayer and a movable extension are provided with two liquid openings. The extension is moved between one position in which the treating liquid flows through one liquid opening into a treating chamber and does not flow through another liquid opening, and another position in which the treating liquid flows through another liquid opening into the treating chamber.

**[0006]** The aim of the present invention is the realization of a dishwasher with improved washing effectiveness.

**[0007]** The dishwasher realized in order to attain the aim of the present invention, explicated in the first claim and the respective claims thereof, comprises a body; a washing tub which is disposed in the body, wherein the washing process is performed; at least one rack which is disposed in the washing tub; and at least one spraying member which sprays water onto the racks. The kitchen items to be washed are placed onto the rack. The water is delivered onto the dishes by means of the spraying member. Thus, the cleaning process is performed. An intensive washing member is provided on the rack. Kitchen items with greater depth such as bottles and glasses

are placed onto the intensive washing member. The water is delivered to the intensive washing member by means of an intensive washing line.

**[0008]** The dishwasher of the present invention comprises at least one water outlet port which is provided on the intensive washing member and a guiding member which has a guiding surface onto which the water passing through the water outlet port is delivered. Water is sprayed onto the washing tub through the intensive washing member by means of the water outlet port. The water delivered through the water outlet port hits the guiding surface. Thereby, the water is redirected and sent towards the dishes placed on the intensive washing member.

**[0009]** According to the present invention, the dishwasher comprises the guiding member having the guiding surface which enables the direction of the water delivered through the water outlet port to be changed by approximately 90 degrees. The inclination of the guiding surface is configured to change the direction of the water by approximately 90 degrees.

**[0010]** In an embodiment of the present invention, the dishwasher comprises an arrangement member which is disposed in front of the intensive washing member and whereon the kitchen items such as glasses and bottles are placed. The guiding member is detachably attached onto the arrangement member.

**[0011]** In an embodiment of the present invention, the dishwasher comprises a water delivery line which is attached to the water outlet port and an additional spraying member which can be attached to and detached from the water delivery line. The water delivery line enables the water to be delivered through the water outlet port. One end of the water delivery line is arranged on the water outlet port. The other end thereof is connected to the additional spraying member.

**[0012]** In an embodiment of the present invention, the dishwasher comprises the additional spraying member in the form of a cone. By means of the conical form of the additional spraying member, the pressure of the water delivered into the washing tub is increased.

**[0013]** In an embodiment of the present invention, the dishwasher comprises the additional spraying member which is perpendicular to the water delivery line. The additional spraying member is attached so as to be perpendicular to the water delivery line.

**[0014]** In an embodiment of the present invention, the dishwasher comprises the water delivery line having an open position and a closed position. The water delivery line is parallel to the base of the rack in the open position and the water is delivered through the additional spraying member. The water delivery line shifts to the closed position by turning upwards on the water outlet port. When the water delivery line is in the closed position, the water is not delivered through the additional spraying member. The water delivery line shifts to the closed position when the intensive washing member is not in use. Thereby, the water delivery line and the additional

spraying member are prevented from occupying space on the rack.

**[0015]** In an embodiment of the present invention, the dishwasher comprises a valve which prevents the water from being delivered through the spraying member when the water delivery line is in the closed position. When the water delivery line is rotated on the water outlet port, the delivery of water is prevented by means of the valve.

**[0016]** By means of the present invention, a dishwasher with increased washing efficiency is realized. By means of the intensive washing member, the items which are extremely dirty or narrower items such as glasses and bottles placed on the rack can be cleaned effectively.

**[0017]** A dishwasher realized in order to attain the aim of the present invention is illustrated in the attached figures, where:

Figure 1 - is the perspective view of the dishwasher.

Figure 2 - is the perspective view of the intensive washing member when the water delivery line is in the open position.

Figure 3 - is the perspective view of the intensive washing member when the water delivery line is in the closed position.

**[0018]** The elements illustrated in the figures are numbered as follows:

- 1- Dishwasher
- 2- Body
- 3- Washing tub
- 4- Rack
- 5- Spraying member
- 6- Intensive washing member
- 7- Intensive washing line
- 8- Water outlet port
- 9- Guiding surface
- 10- Guiding member
- 11- Arrangement member
- 12- Water delivery line
- 13- Additional spraying member
- 14- Valve

**[0019]** The dishwasher (1) comprises a body (2); a washing tub (3) which is arranged in the body (2) and wherein the washing process is realized; at least one rack (4) which is disposed in the washing tub (3) and whereon the dishes to be washed are placed; at least one spraying member (5) which enables the water to be sprayed onto the rack (4) and the kitchen items to be cleaned; an intensive washing member (6) which is disposed on the rack and whereon the kitchen items requiring intensive washing are placed; and an intensive washing line (7) which enables the water to be delivered to the intensive washing member (6). The kitchen items placed on the rack (4) are enabled to be cleaned by spraying water onto the rack (4) by means of the spraying member (5). The kitchen items which are extremely dirty or items such as glasses and bottles are cleaned by means of the intensive washing member (6). The water is delivered to the intensive washing member (6) by means of the intensive washing line (7).

**[0020]** The dishwasher (1) of the present invention comprises at least one water outlet port (8) which is arranged on the intensive washing member (6) and which enables the water coming from the intensive washing line (7) to be delivered to the washing tub (3), and a guiding member (10) having a guiding surface (9) onto which the water passing through the water outlet port (8) is sent, changing the direction of the water sent onto the same. The water is enabled to be delivered onto the rack (4) by means of the water outlet port (8) provided on the intensive washing member (6). On the rack (4) the guiding member (10) is provided, having the guiding surface (9) onto which the water passing through the water outlet port (8) hits and gets redirected. Thus, the water delivered through the intensive washing member (6) is enabled to be sent directly towards the kitchen items placed at the intensive washing region.

**[0021]** According to the present invention, the dishwasher (1) comprises the guiding member (10) having the guiding surface (9) which is inclined so as to change the direction of the water delivered through the water outlet port (8) by approximately 90 degrees. The guiding member (10) comprises a surface which is smooth and is inclined with angle of 90 degrees. Thereby, the water which is delivered horizontally is enabled to be sent vertically. Consequently, the water passing through the water outlet port (8) hits the guiding surface (9) and changes direction to be sent towards the kitchen items.

**[0022]** In an embodiment of the present invention, the dishwasher (1) comprises an arrangement member (11) which is provided in front of the intensive washing member (6) and which has the guiding member (10) detachably attached to the same. The guiding member (10) can be detachably attached to the arrangement member (11) by means of a claw or a protrusion. The arrangement member (11) is suitable for the placement of the kitchen items such as glasses and bottles thereon. The arrangement member (11) can be attached to and detached from the rack (4) by the user. Thus, the same can be removed

from the rack (4) when not in use.

**[0023]** In an embodiment of the present invention, the dishwasher (1) comprises a water delivery line (12) which is connected to the water outlet port (8) and which enables the water to be delivered from the water outlet port (8), and an additional spraying member (13) which can be attached to and detached from the end of the water delivery line (12). By means of the water delivery line (12), the water is delivered from the intensive washing member (6) to the rack (4). The additional spraying member (13) extends from the water delivery line (12) to the washing tub (3). Thus, the water is enabled to be delivered to the dishes.

**[0024]** In an embodiment of the present invention, the dishwasher (1) comprises an additional spraying member (13) which is in the form of a cone. The pressure of the water is increased by means of the conic additional spraying member (13). Thus, the dishes which are extremely dirty are enabled to be cleaned.

**[0025]** In an embodiment of the present invention, the dishwasher (1) comprises the additional spraying member (13) which extends so as to be perpendicular to the water delivery line (12). The additional spraying member (13) extends towards the washing tub (3) so as to be perpendicular to the water delivery line (12). Thus, the water is enabled to be delivered to a farther point with higher pressure.

**[0026]** In an embodiment of the present invention, the dishwasher (1) comprises the water delivery line (12) which has an open position wherein the same extends parallel to the base of the rack (4) and a closed position wherein the same is perpendicular to the bottom of the rack (4). The water delivery line (12) is in the open position when parallel to the base of the rack (4) and the water is enabled to be delivered through the additional spraying member (13). The water delivery line (12) is shifted to the closed position by being rotated approximately 90 degrees on the water outlet port (8). Thus, the water delivery line (12) is prevented from occupying space on the rack (4) when not in use.

**[0027]** In an embodiment of the present invention, the dishwasher (1) comprises a valve (14) which prevents the water from being delivered through the water outlet port (8) when the water delivery line (12) is in the closed position. When the water delivery line (12) is in the closed position, the valve (14) prevents the water delivery through the water outlet port (8).

**[0028]** By means of the present invention, a dishwasher (1) is realized, comprising the intensive washing member (6) which is disposed on the rack (4) so as not to occupy space when not in use and which enables the intensive washing region to be formed. The water passing through the water outlet port (8) is delivered to the guiding member (10) and then, sent towards the kitchen items which are extremely dirty or items such as glasses and bottles.

## Claims

1. A dishwasher (1) **comprising** a body (2); a washing tub (3) which is arranged in the body (2) and wherein the washing process is realized; at least one rack (4) which is disposed in the washing tub (3) and whereon the dishes to be washed are placed; at least one spraying member (5) which enables the water to be sprayed onto the rack (4) and the kitchen items to be cleaned; an intensive washing member (6) which is disposed on the rack and whereon the kitchen items requiring intensive washing are placed; an intensive washing line (7) which enables the water to be delivered to the intensive washing member (6), and

at least one water outlet port (8) which is arranged on the intensive washing member (6) and which enables the water coming from the intensive washing line (7) to be delivered horizontally to the washing tub (3),

### **characterized by**

a guiding member (10) which is provided in front of the intensive washing member (6) having a guiding surface (9) onto which the water passing through the water outlet port (8) is sent and which is inclined so as to change the direction of the water delivered through the water outlet port (8) by approximately 90 degrees, thereby vertically changing the direction of the water sent onto the same towards the kitchen items.

2. A dishwasher (1) as in Claim 1, **characterized by** an arrangement member (11) which is provided in front of the intensive washing member (6) and which has the guiding member (10) detachably attached to the same.
3. A dishwasher (1) as in Claim 1 or Claim 2, **characterized by** a water delivery line (12) which is connected to the water outlet port (8) and which enables the water to be delivered from the water outlet port (8), and an additional spraying member (13) which can be attached to and detached from the end of the water delivery line (12).
4. A dishwasher (1) as in Claim 3, **characterized by** the additional spraying member (13) which is in the form of a cone.
5. A dishwasher (1) as in Claim 3 or Claim 4, **characterized by** the additional spraying member (13) which extend so as to be perpendicular to the water delivery line (12).
6. A dishwasher (1) as in any one of the claims 3 to 5, **characterized by** the water delivery line (12) which has an open position wherein the same is parallel to the base of the rack (4) and a closed position wherein

the same is perpendicular to the bottom of the rack (4).

7. A dishwasher (1) as in Claim 6, **characterized by** a valve (14) which prevents the water delivery through the water outlet port (8) when the water delivery line (12) is in the closed position.

#### Patentansprüche

1. Eine Geschirrspülmaschine (1) **umfasst** einen Körper (2); eine Waschwanne (3), die in dem Körper (2) angeordnet ist und in der der Waschvorgang durchgeführt wird; mindestens ein Gestell (4), das in der Waschwanne (3) angeordnet ist und auf dem das zu spülende Geschirr platziert ist; mindestens ein Sprühelement (5), das es ermöglicht, das Wasser auf das Gestell (4) und die zu reinigenden Küchengegenstände zu sprühen; ein Intensivspülelement (6), das auf dem Gestell angeordnet ist und auf dem die Küchengegenstände platziert werden, die eine intensive Reinigung erfordern; eine Intensivwaschleitung (7), die es ermöglicht, das Wasser an das Intensivwaschelement (6) zu liefern, und mindestens eine Wasserauslassöffnung (8), die an dem Intensivwaschelement (6) angeordnet ist und die es ermöglicht, das von der Intensivwaschleitung (7) kommende Wasser horizontal an die Waschwanne (3) zu liefern, **gekennzeichnet ist durch** eine Leiteinrichtung (10), die vor dem Intensivspülelement (6) vorgesehen ist und eine Leitfläche (9) aufweist, auf die das durch die Wasserauslassöffnung (8) fließende Wasser geleitet wird, und die so geneigt ist, dass sie die Richtung des durch die Wasserauslassöffnung (8) gelieferten Wassers um etwa 90 Grad ändert, wodurch die Richtung des auf sie geleiteten Wassers vertikal in Richtung der Küchengegenstände geändert wird.
2. Eine Geschirrspülmaschine (1), wie in Anspruch 1 aufgeführt, **ist dadurch gekennzeichnet, dass** ein Anordnungsselement (11) vor dem Intensivwaschelement (6) vorgesehen ist und an dem das Führungselement (10) abnehmbar befestigt ist.
3. Eine Geschirrspülmaschine (1), wie in Anspruch 1 oder 2 aufgeführt, **ist dadurch gekennzeichnet, dass** eine Wasserzuführungsleitung (12), die mit der Wasserauslassöffnung (8) verbunden ist und die Abgabe von Wasser aus der Wasserauslassöffnung (8) ermöglicht, und ein zusätzliches Sprühelement (13), das am Ende der Wasserzuführungsleitung (12) befestigt und von ihr gelöst werden kann.
4. Eine Geschirrspülmaschine (1), wie in Anspruch 3 aufgeführt, **ist dadurch gekennzeichnet, dass** das zusätzliche Sprühelement (13) die Form eines Ke-

gels hat.

5. Eine Geschirrspülmaschine (1), wie in Anspruch 3 oder 4 aufgeführt, **ist dadurch gekennzeichnet, dass** das zusätzliche Sprühelement (13) senkrecht zur Wasserzuführungsleitung (12) verläuft.
6. Eine Geschirrspülmaschine (1), wie in einem der Ansprüche 3 bis 5 aufgeführt, **ist dadurch gekennzeichnet, dass** die Wasserzuführungsleitung (12) eine offene Position hat, in der sie parallel zum Boden des Gestells (4) verläuft, und eine geschlossene Position, in der sie senkrecht zum Boden des Gestells (4) verläuft.
7. Eine Geschirrspülmaschine (1), wie in Anspruch 6 aufgeführt, **ist dadurch gekennzeichnet, dass** ein Ventil (14), das die Wasserabgabe durch die Wasserauslassöffnung (8) verhindert, wenn sich die Wasserabgabeleitung (12) in der geschlossenen Stellung befindet.

#### Revendications

1. Un lave-vaisselle (1) **comprenant** un corps (2) ; une cuve de lavage (3) qui est disposée dans le corps (2) et dans laquelle le processus de lavage est effectué ; au moins un panier (4) qui est disposé dans la cuve de lavage (3) et sur lequel sont placés les ustensiles à laver ; au moins un élément de pulvérisation (5) qui permet de pulvériser l'eau sur le panier (4) et sur les ustensiles de cuisine à nettoyer ; un élément de lavage intensif (6) qui est disposé sur le panier et sur lequel sont placés les ustensiles de cuisine nécessitant un lavage intensif ; une ligne de lavage intensif (7) qui permet d'acheminer l'eau vers l'élément de lavage intensif (6), et au moins un orifice de sortie d'eau (8) qui est disposé sur l'élément de lavage intensif (6) et qui permet d'acheminer horizontalement l'eau provenant de la ligne de lavage intensif (7) vers la cuve de lavage (3), **caractérisé par** un élément de guidage (10) qui est placé devant l'élément de lavage intensif (6) ayant une surface de guidage (9) sur laquelle l'eau passant par l'orifice de sortie d'eau (8) est dirigée et qui est inclinée de manière à changer la direction de l'eau délivrée par l'orifice de sortie d'eau (8) d'environ 90 degrés, changeant ainsi verticalement la direction de l'eau envoyée sur les ustensiles de cuisine.
2. Un lave-vaisselle (1) selon la Revendication 1, **caractérisé par** un élément d'agencement (11) qui est disposé devant l'élément de lavage intensif (6) et auquel l'élément de guidage (10) est fixé de manière amovible.
3. Un lave-vaisselle (1) selon la Revendication 1 ou 2,

**caractérisé par** une ligne d'acheminement de l'eau (12) qui est reliée à l'orifice de sortie d'eau (8) et qui permet de distribuer l'eau depuis l'orifice de sortie d'eau (8), et par un élément de pulvérisation supplémentaire (13) qui peut être fixé à l'extrémité de la ligne d'acheminement de l'eau (12) et qui peut être détaché de cette dernière. 5

4. Un lave-vaisselle (1) selon la Revendication 3, **caractérisé par** l'élément de pulvérisation supplémentaire (13) qui est en forme de cône. 10

5. Un lave-vaisselle (1) selon la Revendication 3 ou 4, **caractérisé par** l'élément de pulvérisation supplémentaire (13) qui s'étend de manière à être perpendiculaire à la ligne d'acheminement de l'eau (12). 15

6. Un lave-vaisselle (1) selon l'une des revendications 3 à 5, **caractérisé par** la ligne d'acheminement de l'eau (12) qui a une position ouverte dans laquelle elle est parallèle à la base du panier (4) et une position fermée dans laquelle elle est perpendiculaire au fond du panier (4). 20

7. Un lave-vaisselle (1) selon la Revendication 6, **caractérisé par** une valve (14) qui empêche l'arrivée de l'eau par l'orifice de sortie d'eau (8) lorsque la ligne d'acheminement de l'eau (12) est en position fermée. 25

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Figure 1

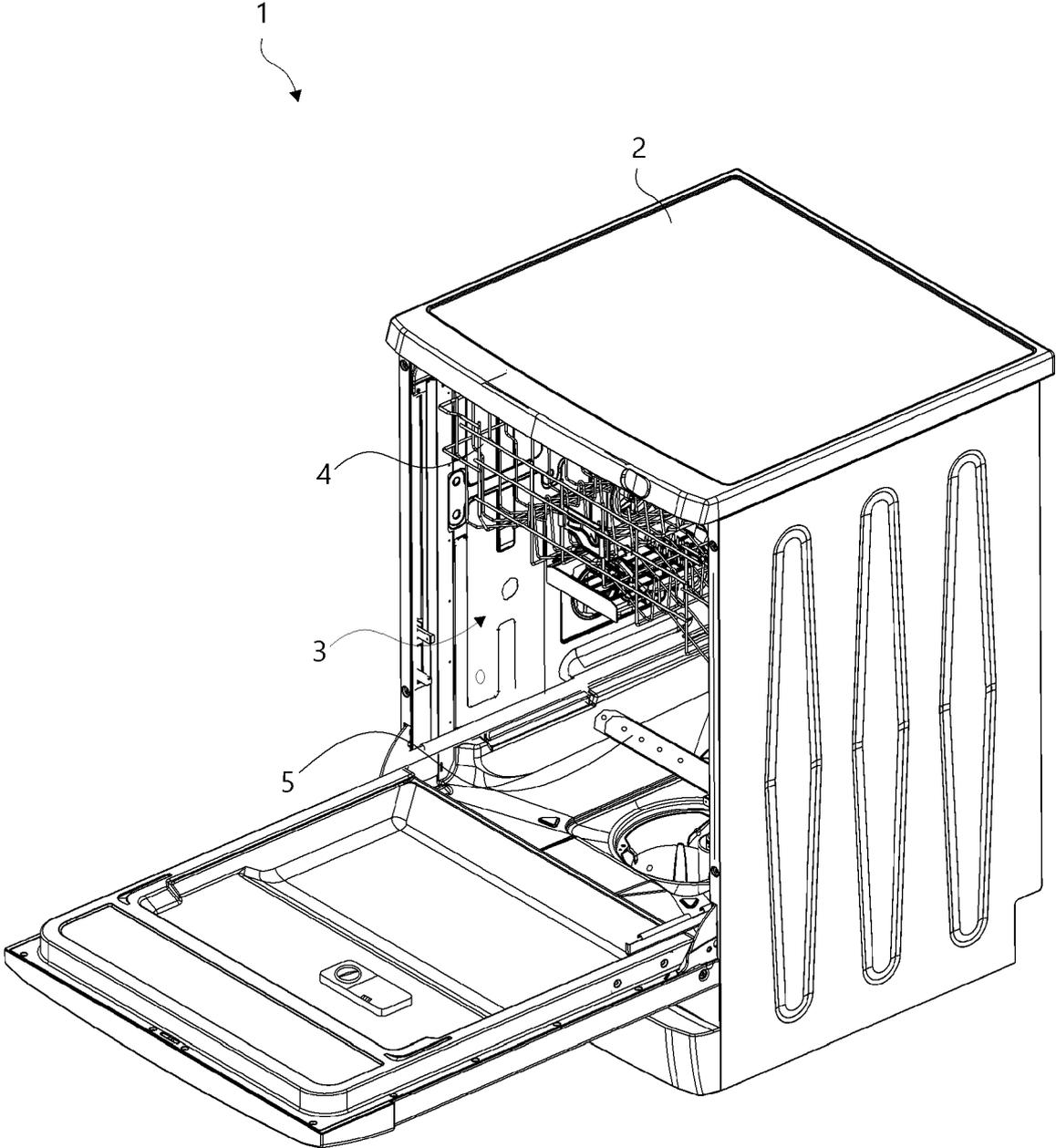


Figure 2

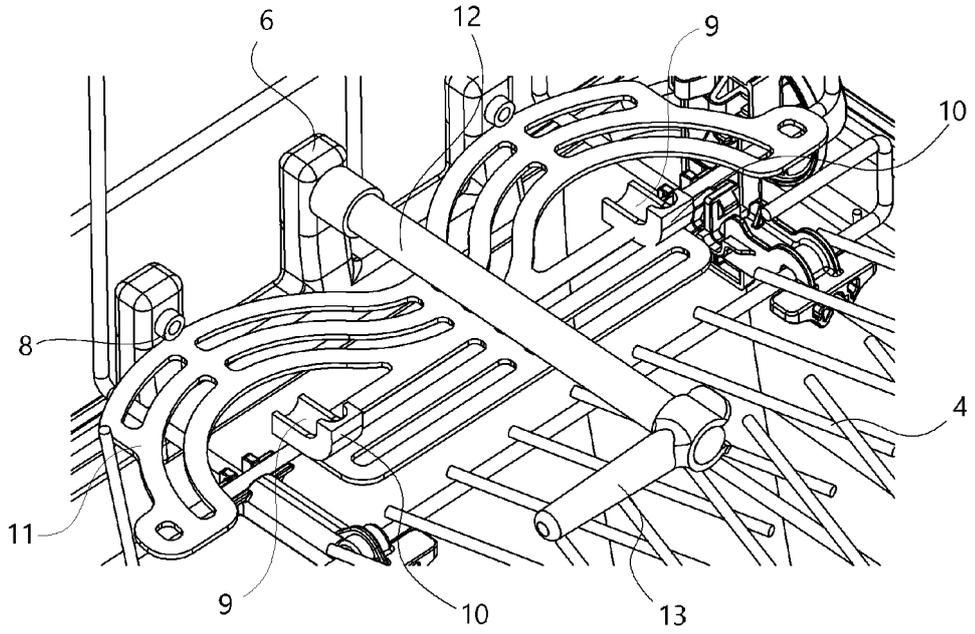
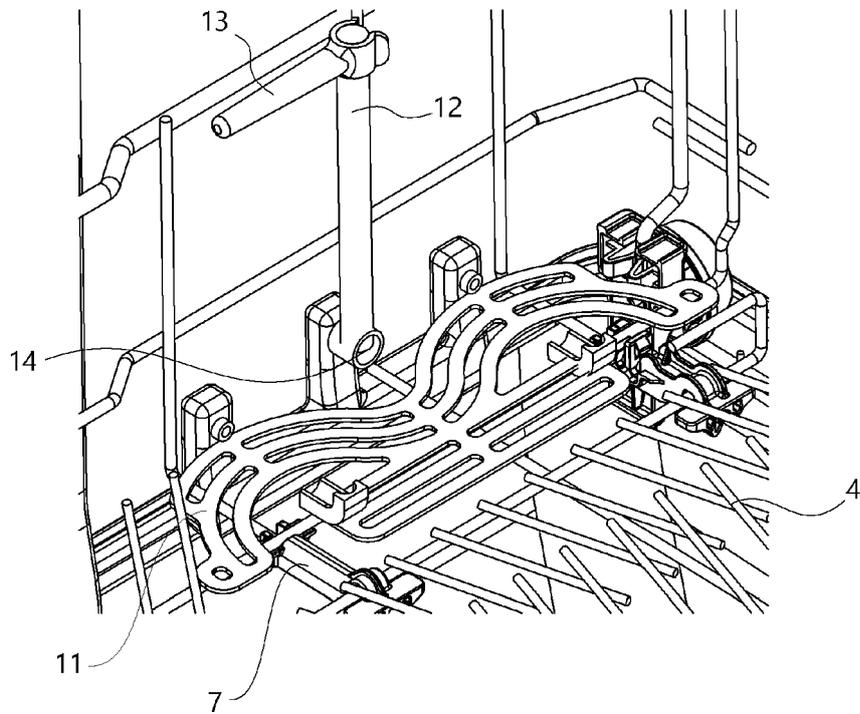


Figure 3



**REFERENCES CITED IN THE DESCRIPTION**

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