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(54) **A DISHWASHER COMPRISING SPRAYING MEMBER**

GESCHIRRSPÜLMASCHINE MIT SPRÜHELEMENT

LAVE-VAISSELLE COMPRENANT UN ÉLÉMENT DE PULVÉRISATION

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Description

[0001] The present invention relates to a dishwasher comprising spraying member.

[0002] In dishwashers, the washing process is performed by spraying water coming through a main supply line on the dishes by means of spray arms. Spraying members provided on the spray arm enable water to be sprayed on the dishes with a certain pressure. The flow rate and the pressure of the sprayed water is of utmost importance in terms of cleaning the dishes. Washing regions are formed in dishwashers to clean intense dirtiness. Additional spraying members are used in washing regions to enable cleaning such dirtiness. Kitchenware placed on a basket are cleaned by means of water pressure and detergent. Therefore, arrangement of dishes on a basket is of utmost importance to achieve high efficiency in the washing process. Particularly kitchenware which are tall and have a narrow mouth such as bottles and glasses are not enabled to contact water and are therefore not cleaned sufficiently. Various placement apparatuses are used in dishwashers for this purpose. However, placement apparatuses occupy additional space and decrease the available volume of a basket. Such placement apparatuses hinder placement when not in use.

[0003] State of the art United States patent application document no. US2977963 discloses a washing machine having intense washing regions.

[0004] State of the art United States patent application document no. US 2015/0257623 A1 discloses a dishwasher having a tub defining a treating chamber, a dish rack, and a spray assembly associated with the dish rack.

[0005] State of the art European patent document no. EP0997100 discloses a basket having a base for supporting objects to be cleaned and coupling for pipeline through which washing liquid can be delivered to a defined area of the basket.

[0006] The aim of the present invention is to realize a dishwasher with improved washing efficiency. The dishwasher realized to achieve the aim of the present invention and disclosed in the first claim and the dependent claims comprises a body, a washing tub provided on the body, in which the washing process is performed, and a main supply line enabling water transmission to the washing tub. At least one basket is provided on the washing tub. The kitchenware are placed on the basket to be washed. A conduit is provided on the basket, enabling water transmission to a spraying member. An end of the conduit is connected to the main supply line, and the water received through the main supply line is transmitted to the spraying member by means of the conduit. A plurality of orifices are provided on the spraying member. Water received through the conduit is thus transmitted on kitchenware by means of the spraying member. By this, regional washing is enabled.

[0007] The dishwasher of the invention comprises the spraying member having a vertical position in which it is

perpendicular to the washing tub base, and a horizontal position in which is it parallel to the washing tub base. When the spraying member is in vertical position, elongated kitchenware such as bottles or glasses can be washed by being placed thereon. When the spraying member is in horizontal position, wide and flat kitchenware such as trays or cooking pots can be washed by being placed on the basket correspondingly to the spraying member.

[0008] According to the invention, the dishwasher comprises a spraying member whose one end covers the conduit and whose other end is displaceable by pivoting on the conduit so as to scan a quadrant. The spraying member is displaceable by being rotationally moved on the conduit by the user.

[0009] According to the invention, the dishwasher comprises a blocking member provided on the basket, comprising a plurality of plugs corresponding to the orifices when the spraying member is in horizontal position. When the spraying member is in horizontal position, the orifices facing the blocking member are covered by means of the plugs. This enables the orifices kept open to transmit water with a higher pressure.

[0010] In an embodiment of the invention, the dishwasher comprises a slot provided on the conduit. The spraying member shifts between the vertical position and the horizontal position by moving on the slot. Opposite end portions of the slot are narrower forming at least two seats. At least two projections are provided on the spraying member. The projections are provided on the surface with which the spraying member contacts the conduit. The projections settle into the seats, enabling locking the spraying member in vertical position or horizontal position.

[0011] In an embodiment of the invention, the dishwasher comprises a tubular spraying member. Water is dispersed by being transmitted into the spraying member.

[0012] In an embodiment of the invention, the dishwasher comprises a spraying member movable in steps between the vertical position and the horizontal position.

[0013] In an embodiment of the invention, the dishwasher comprises a conduit detachably mounted on the basket. By this, the conduit can be cleaned by the user by being removed.

[0014] A dishwasher realized to achieve the aim of the present invention is illustrated in the accompanying drawings, wherein:

Figure 1 is a perspective view of the dishwasher.
 Figure 2 is a perspective view of the basket with the spraying members in vertical position.
 Figure 3 is a perspective view of the basket with one of the spraying members in vertical position while the other is in horizontal position.
 Figure 4 is a partial view of the spraying members.

[0015] The elements in the figures are numbered indi-

vidually and the correspondence of these numbers are given hereinafter.

- 1- Dishwasher
- 2- Body
- 3- Washing tub
- 4- Main supply line
- 5- Basket
- 6- Spraying member
- 7- Conduit
- 8- Orifice
- 9- Plug
- 10- Blocking member
- 11-Slot
- 12- Seat
- 13- Projection
- A- Vertical position
- B- Horizontal position

[0016] The dishwasher (1) comprises a body (2), a washing tub (3) in which the washing process is performed, a main supply line (4) enabling water transmission to the washing tub (3), a basket (5) provided on the washing tub (3), on which kitchenware are placed, at least one spraying member (6) enabling regional washing by transmitting the water received through the main supply line (4) to kitchenware, a plurality of orifices (8) provided on the spraying member (6), enabling water to be transmitted through the spraying member (6) to the washing tub (3), and a conduit (7) provided on the basket (5), enabling water transmission to the spraying member (6), whose one end is connected on the main supply line (4). Water coming through the main supply line (4) is transmitted to the spraying member (6) by means of the conduit (7). Water is transmitted to the kitchenware placed on the basket (5) by means of the orifices (8) provided on the spraying member (6), enabling cleaning the kitchenware. The spraying member (6) enables intense washing. Washing performance is thus enhanced.

[0017] The dishwasher (1) of the invention comprises a spraying member (6) having a vertical position (A) in which it is perpendicular to the washing tub (3) base, enabling washing elongated kitchenware such as glasses and bottles to be washed by being placed thereon, and a horizontal position (B) in which it is parallel to the washing tub (3) base, enabling washing wider kitchenware such as trays or cooking pots to be washed by being placed on the basket (5) correspondingly. When the spraying member (6) is in vertical position (A), kitchenware with narrower mouths such as bottles or glasses can be placed thereon. Their surfaces are thus enabled to be washed conveniently. The spraying member (6) can be brought to horizontal position (B) when it is not utilized in vertical position (A). This facilitates placement of dishes on the basket (5). When the spraying member (6) is in horizontal position (B), it enables washing kitchenware with wider surfaces such as trays or cooking pots.

[0018] According to the invention, the dishwasher (1)

comprises a spraying member (6) shifting between vertical position (A) and horizontal position (B) by pivoting on the conduit (7). The spraying member (6) makes circular motion on the conduit (7). The spraying member (6) shifts between vertical position (A) and horizontal position (B) by one of its ends staying stationary on the conduit (7) while its other end pivots 90°.

[0019] According to the invention, the dishwasher (1) comprises a blocking member (10) provided on the basket (5), comprising a plurality of plugs (9) enabling covering the orifices (8) by engaging therein when the spraying member (6) is in horizontal position. Water is transmitted through the orifices (8) to the washing tub (3) through the spraying member (6). The blocking member (10) provided on the basket (5) comprises plugs (9) corresponding to the orifices (8). By this, orifices (8) on one surface of the spraying member (6) are covered when it is in horizontal position, enabling transmitting water with higher pressure through the orifices (8) kept open.

[0020] In an embodiment of the invention, the dishwasher (1) comprises a slot (11) provided on the conduit (7), on which the spraying member (6) moves, two seats (12) provided opposite each other at the end portions of the slot (11) and two projections (13) provided opposite each other on the surface of the spraying member (6) in the slot (11), enabling locking the spraying member (6) in vertical position (A) and horizontal position (B) by settling in the seats (12). The spraying member (6) moves inside the slot (11) while shifting between vertical position (A) and horizontal position (B). The end portions of the slot (11) are narrower, forming the seats (12). The projections (13) settle in the seats (12) when the spraying member (6) is completely in vertical position (A) or horizontal position (B). The spraying member (6) is thus enabled to stay stationary.

[0021] In an embodiment of the invention, the spraying member (6) is tubular. Water can thus be conveniently transmitted to all orifices (8) on the spraying member (6).

[0022] In an embodiment of the invention, the dishwasher (1) comprises a conduit (7) detachably mounted on the basket (5). By this, the conduit (7) can be easily cleaned by being removed. The present invention enables realizing a dishwasher (1) with improved washing efficiency. The spraying member (6) enables intense washing. Inner surfaces of elongated kitchenware with narrow mouths such as bottles and glasses can be easily cleaned. Kitchenware can be conveniently placed on the basket (5) by means of the spraying member (6) being positionable in vertical position (A) and horizontal position (B). The spraying member (6) enables washing kitchenware likely to have intense dirtiness such as trays or cooking pots by transmitting water with higher pressure when it is in horizontal position (B).

Claims

1. A dishwasher (1) comprising a body (2), a washing

tub (3) in which the washing process is performed, a main supply line (4) enabling water transmission to the washing tub (3), a basket (5) provided on the washing tub (3), on which kitchenware is placed, at least one spraying member (6) enabling regional washing by transmitting the water received through the main supply line (4) to the kitchenware, a plurality of orifices (8) provided on the spraying member (6), enabling water to be transmitted through the spraying member (6) to the washing tub (3), and a conduit (7) provided on the basket (5), enabling water transmission to the spraying member (6), whose one end is connected on the main supply line (4), the spraying member (6) having a vertical position (A) in which it is perpendicular to the washing tub (3) base, enabling washing elongated kitchenware such as glasses and bottles to be washed by being placed thereon, and a horizontal position (B) in which it is parallel to the washing tub (3) base, enabling washing wider kitchenware such as trays or cooking pots to be washed by being placed on the basket (5) correspondingly, the spraying member (6) shifting between vertical position (A) and horizontal position (B) by pivoting on the conduit (7), **characterized by** further comprising a blocking member (10) provided on the basket (5), comprising a plurality of plugs (9) enabling covering the orifices (8) by engaging therein when the spraying member (6) is in horizontal position.

2. A dishwasher (1) according to claim 1, **characterized by** further comprising a slot (11) provided on the conduit (7), on which the spraying member (6) moves, two seats (12) provided opposite each other at the end portions of the slot (11) **and by** further comprising two projections (13) provided opposite each other on the surface of the spraying member (6) in the slot (11), enabling locking the spraying member (6) in vertical position (a) and horizontal position (B) by settling in the seats (12).
3. A dishwasher (1) according to claim 1 and claim 2, **characterized by** the spraying member (6) being a tubular spraying member (6).
4. A dishwasher (1) according to any one of the preceding claims, **characterized by** the conduit (7) being detachably mounted on the basket (5).

Patentansprüche

1. Eine Geschirrspülmaschine (1) **umfasst** einen Körper (2), eine Waschwanne (3), in dem der Waschvorgang durchgeführt wird, eine Hauptversorgungsleitung (4), die eine Wasserübertragung zu der Waschwanne (3) ermöglicht, einen an der Waschwanne (3) vorgesehenen Korb (5), auf dem Geschirr

abgestellt wird, mindestens ein Sprühelement (6), das ein örtliches Waschen ermöglicht, indem es das durch die Hauptversorgungsleitung (4) aufgenommene Wasser zu dem Küchengeschirr leitet, eine Vielzahl von Öffnungen (8), die an dem Sprühelement (6) vorgesehen sind, wodurch Wasser durch das Sprühelement (6) zu der Waschwanne (3) geleitet werden kann, und eine am Korb (5) vorgesehene Leitung (7), die eine Wasserübertragung zum Sprühelement (6) ermöglicht, dessen eines Ende mit der Hauptversorgungsleitung (4) verbunden ist, wobei das Sprühelement (6) eine vertikale Position (A) aufweist, in der es senkrecht zur Basis der Waschwanne (3) ist, in der es senkrecht zur Basis der Waschwanne (3) ist, was das Waschen von länglichem Küchengeschirr wie zu spülenden Gläsern und Flaschen ermöglicht, indem es darauf platziert wird, und eine horizontale Position (B), in der es parallel zum Boden der Waschwanne (3) ist, was das Waschen von breiterem Küchengeschirr wie zu waschenden Tablett oder Kochtöpfen ermöglicht, indem es entsprechend auf dem Korb (5) platziert wird, wobei sich das Sprühelement (6) zwischen vertikaler Position (A) und horizontaler Position (B) durch Schwenken auf der Leitung (7) bewegt, **gekennzeichnet ist es dadurch**, dass sie ferner ein Blockierelement (10) umfasst, das an dem Korb (5) vorgesehen ist und eine Vielzahl von Stopfen (9) umfasst, die ein Abdecken der Öffnungen (8) ermöglichen, indem sie darin eingreifen, wenn sich das Sprühelement (6) in einer horizontalen Position befindet.

2. Eine Geschirrspülmaschine (1), wie in Anspruch 1 aufgeführt, ist **dadurch gekennzeichnet, dass** sie ferner einen Schlitz (11) umfasst, der an der Leitung (7) vorgesehen ist, auf dem sich das Sprühelement (6) bewegt, zwei Sitze (12), die einander gegenüberliegend an den Endabschnitten des Schlitzes (11) bereitgestellt sind, **und** darüber hinaus zwei Vorsprünge (13) umfasst, die einander gegenüberliegend auf der Oberfläche des Sprühelements (6) in dem Schlitz (11) vorgesehen sind und das Verriegeln des Sprühelements (6) in vertikaler Position (a) und horizontaler Position (B) durch Einrasten in die Sitze (12) ermöglichen.
3. Eine Geschirrspülmaschine (1), wie in Anspruch 1 und 2 aufgeführt, **ist dadurch gekennzeichnet, dass** das Sprühelement (6) ein rohrförmiges Sprühelement (6) ist.
4. Eine Geschirrspülmaschine (1), wie in einem der vorherigen Ansprüchen aufgeführt, **ist dadurch gekennzeichnet, dass** die Leitung (7) lösbar am Korb (5) angebracht ist.

Revendications

panier (5).

1. Un lave-vaisselle (1) **comprenant** un corps (2), une cuve de lavage (3) dans laquelle le processus de lavage est effectué, une ligne d'alimentation principale (4) permettant la transmission de l'eau à la cuve de lavage (3), un panier (5) prévu sur la cuve de lavage (3), sur lequel des ustensiles de cuisine sont placés, au moins un élément de pulvérisation (6) permettant un lavage régional en transmettant l'eau reçue par la ligne d'alimentation principale (4) aux ustensiles de cuisine, une pluralité d'orifices (8) prévus sur l'élément de pulvérisation (6), l'élément de pulvérisation (6) ayant une position verticale (A) dans laquelle il est perpendiculaire à la base de la baignoire (3), ce qui permet de laver des ustensiles de cuisine allongés tels que des verres et des bouteilles en les plaçant à cet endroit, l'organe d'aspersion (6) ayant une position verticale (A) dans laquelle il est perpendiculaire au fond de la baignoire de lavage (3), permettant de laver des ustensiles de cuisine allongés tels que des verres et des bouteilles en les posant dessus, et une position horizontale (B) dans laquelle il est parallèle au fond de la baignoire de lavage (3), permettant de laver des ustensiles de cuisine plus larges tels que des plateaux ou des casseroles à laver en les plaçant sur le panier (5) de manière correspondante, l'élément de pulvérisation (6) se déplaçant entre une position verticale (A) et une position horizontale (B) en pivotant sur le conduit (7), **caractérisé par le fait qu'**il comprend en outre un élément de blocage (10) prévu sur le panier (5), comprenant une pluralité de bouchons (9) permettant de couvrir les orifices (8) en s'engageant dans ceux-ci lorsque l'élément de pulvérisation (6) est en position horizontale.

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2. Un lave-vaisselle (1) selon la déclaration 1, **caractérisé par le fait qu'**il comprend en outre une fente (11) prévue sur le conduit (7), sur laquelle l'élément de pulvérisation (6) se déplace, deux sièges (12) prévus à l'opposé l'un de l'autre aux parties d'extrémité de la fente (11) **et par le fait qu'**il comprend en outre deux saillies (13) prévues à l'opposé l'une de l'autre sur la surface de l'élément de pulvérisation (6) dans la fente (11), permettant de verrouiller l'élément de pulvérisation (6) dans la position verticale (a) et la position horizontale (B) en s'installant dans les sièges (12).

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3. Un lave-vaisselle (1) selon la déclaration 1 et la déclaration 2, **caractérisé par le fait que** l'élément d'épandage (6) est un élément de pulvérisation tubulaire (6).

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4. Un lave-vaisselle (1) selon l'une quelconque des déclarations précédentes, **caractérisé par le fait que** le conduit (7) est monté de manière amovible sur le

Figure 1

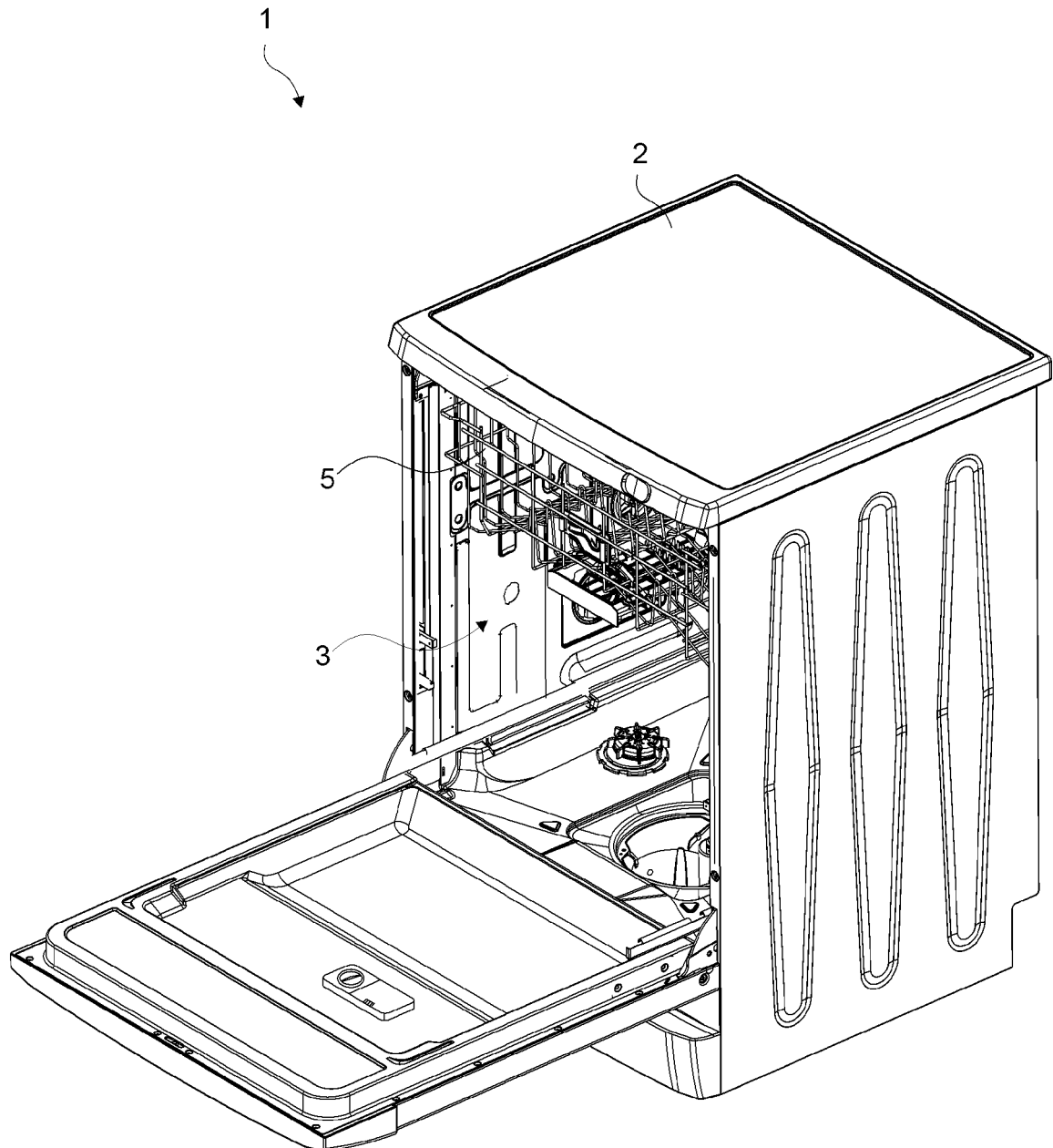


Figure 2

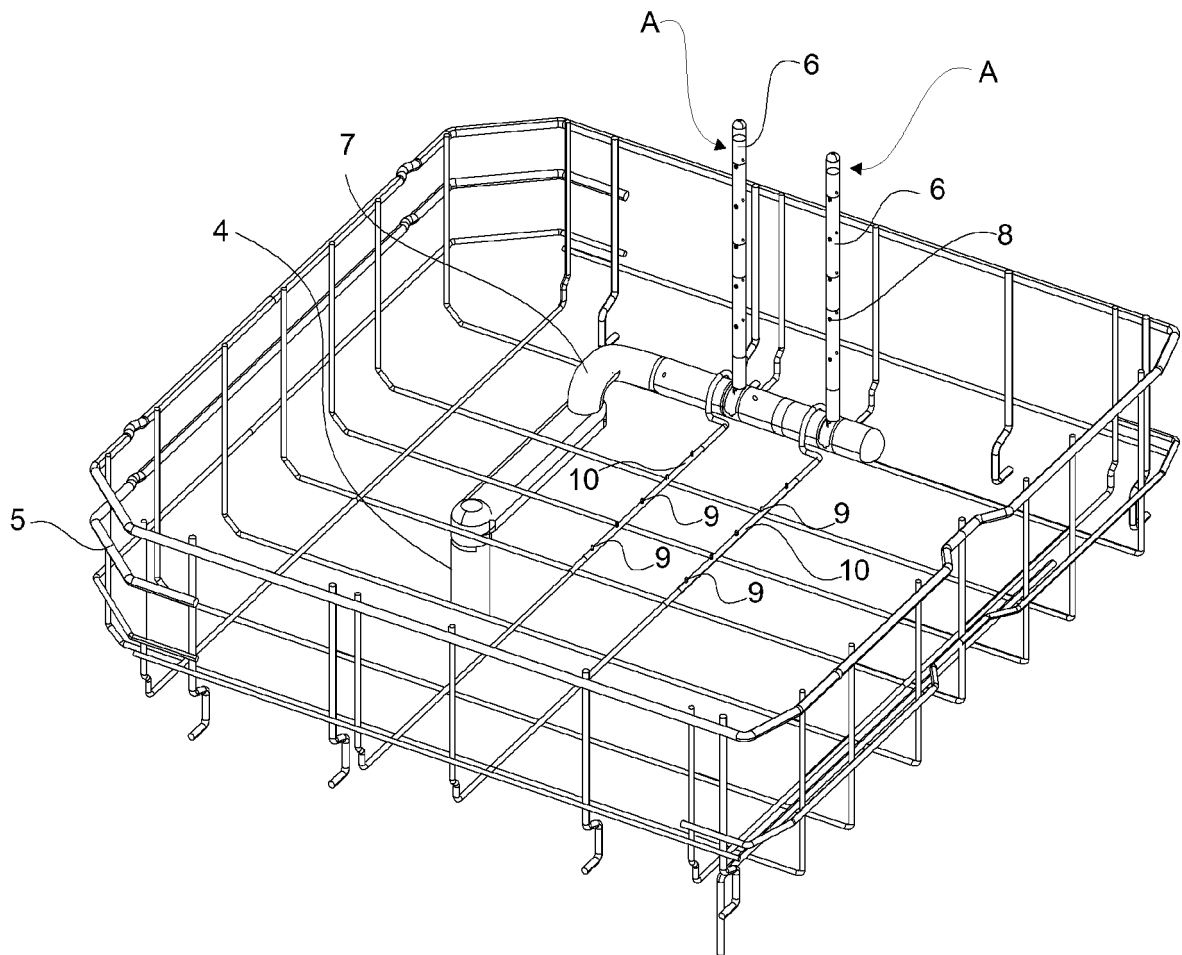


Figure 3

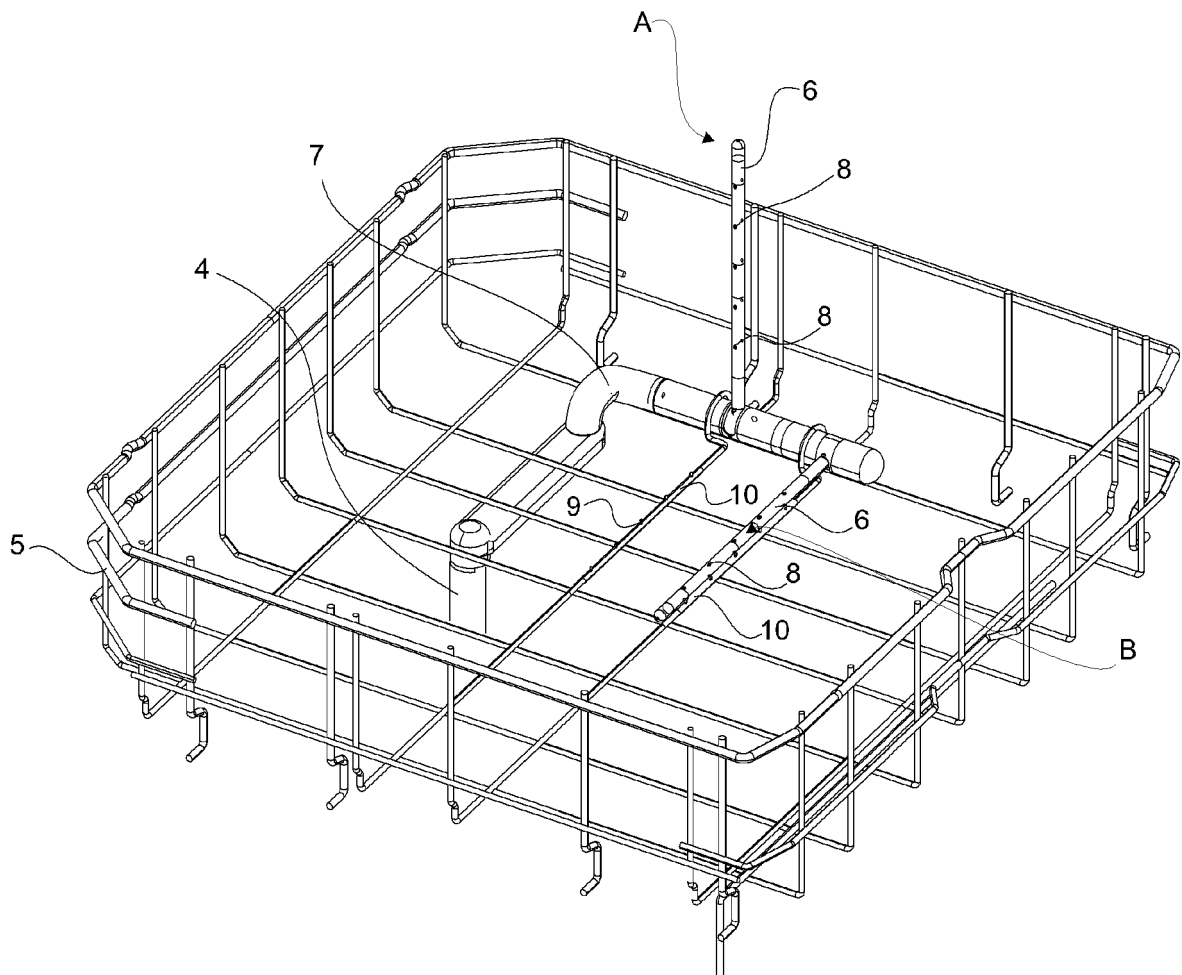
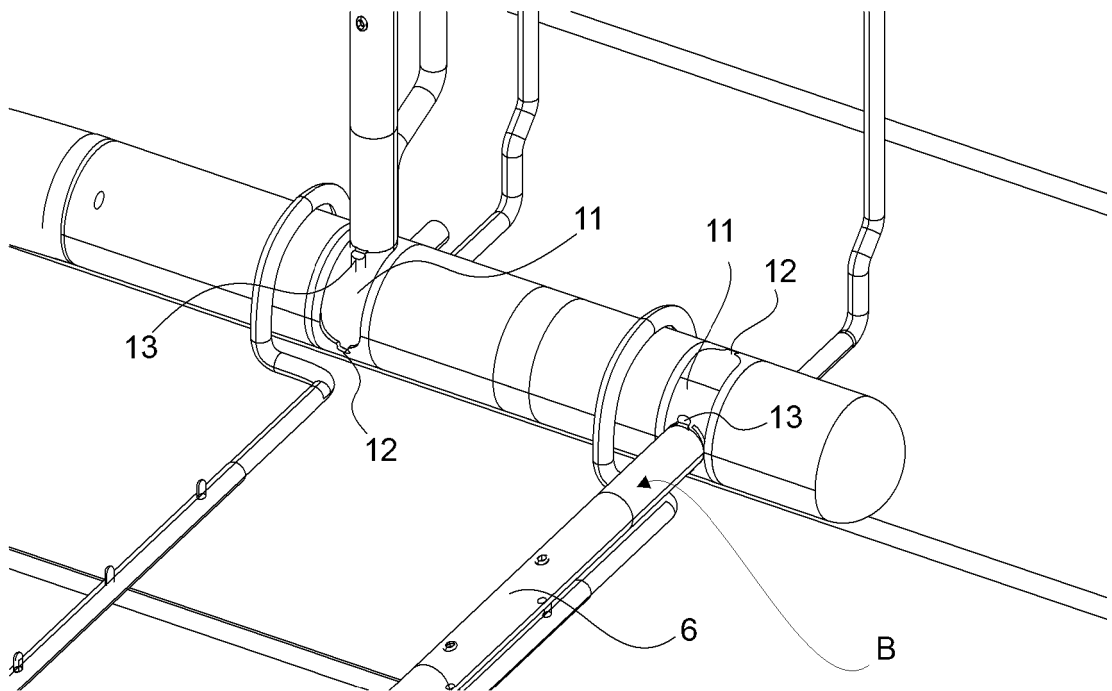


Figure 4



REFERENCES CITED IN THE DESCRIPTION

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