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(54) **Combination of shelves for dishwasher basket**

Kombination von Ablagen für Geschirrspülerkorb

Combinaison d'étagères pour un panier de lave-vaisselle

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Description

[0001] The present invention relates to a combination of shelves for dishwasher basket.

[0002] Dishwasher baskets equipped with shelves for increasing the possibility of loading tableware onto the basket are known in the prior art; said shelves are adapted for placing mugs, glasses and/or cups and other light-weight tableware. Said shelves may be equipped with mechanical devices for placing them in a working position, i.e. in the position in which they are adapted to be loaded with tableware, and in a rest position in which they are normally aligned with a wall of the dishwasher basket.

[0003] EP 1 384 432 discloses a combination of shelves as defined in the preamble of claim 1.

[0004] In light of the described state of the art, it is the object of the present invention to provide a combination of shelves for dishwasher basket which allows to further increase the possibility of loading tableware items onto the basket.

[0005] In accordance with the present invention, such an object is achieved by a combination of first and second shelves for dishwasher basket, said basket comprising a rod structure with a bottom and at least one wall which is vertical to the bottom, said second shelf being arranged underneath said first shelf and both shelves comprising means for placing said shelves either in a working position for loading the tableware or in a rest position in a reciprocally independent manner, characterized in that said first and said second shelves each comprises a plurality of teeth with corresponding appendixes at a given distance from one another, said second shelf being configured so that each tooth from the plurality of teeth of said second shelf is arranged between two consecutive teeth from the plurality of teeth of the first shelf with said first and second shelves being in the rest position.

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

figure 1 is a diagrammatic side view of the combination of shelves for dishwasher basket in accordance with the embodiment of the present invention;

figure 2 is a top view of the combination of shelves for dishwasher basket in figure 1;

figure 3 is a front view of the combination of shelves for dishwasher basket in figure 1;

figures 4-5 show a combination of shelves for dishwasher basket in accordance with a variant of the embodiment of the present invention.

[0007] Figures 1-3 show a combination of shelves for dishwasher basket in accordance with the present invention. Figure 1 shows the combination of a first shelf or upper shelf 1 with a second shelf or lower shelf 2 for a

basket 3 of a dishwasher 4; shelf 2 is arranged underneath shelf 1. Basket 3 comprises a rod structure, preferably plasticized, with a bottom 32 and at least one wall 31, preferably a side wall, vertically arranged with respect to the bottom 32 of basket 3; basket 3 preferably comprises four vertical walls. The shelves 1 and 2 are pivotally engaged with rods 5 and 6 by means of hooks 7 and 8; the rods 5 and 6 belong to the basket 3 and particularly to the side wall 31 of basket 3 with rod 6 arranged underneath rod 5. Both shelves may be arranged either in working positions A and C, inclined by a given angle P, P' with respect to a vertical axis X, or in rest positions B and B', i.e. in a substantially vertical position; shelf 2 may also take an intermediate position between the positions A and C. In positions A and C the shelves 1 and 2 are adapted to support the tableware items for washing them, while in rest positions B and B', as the shelves are in a substantially vertical position, they do not allow to load the tableware onto the shelves but allow to load large tableware items onto the basket 3.

[0008] Shelf 1 may be provided with a portion 11 used for holding cutlery or cups. Shelves 1 and 2 may be arranged in the rest positions B, B' and in the working positions A and C by known means, such as for example extensions 33, 34 of the shelves 1 and 2 themselves which engage the rods of the wall 31 of basket 3.

[0009] Shelf 1 comprises teeth 12 with appendixes 13 arranged at a fixed distance D from one another.

[0010] Shelf 2 comprises teeth 21 provided with appendixes 22 arranged at a distance D1 from one another. Shelf 2 is made so that the teeth 21 with appendixes 22 are inserted into the zones 14 between the teeth 12 of shelf 1 in the rest position B, B' of both shelves 1 and 2, as better shown in figure 3.

[0011] Shelf 2 may be used either independently from shelf 1, and thus arranged in the working position C when shelf 1 is in the rest position B, or may be arranged in the rest position B' when shelf 1 is in the working position A; in the latter case, the appendixes 22 of shelf 2 form a resting barrier for the tableware introduced on shelf 1.

[0012] Basket 3 may be the upper or lower basket of the dishwasher 4.

[0013] In accordance with a variant of the embodiment of the present invention, each shelf of the combination of shelves in figures 1-3 may be equipped with means 40 for the arrangement in the working positions A and C or in the rest positions B, B'; figures 4-5 only show the shelf 1 provided with means 40, but shelf 2 may also be provided with said means 40. Said means 40 comprise an element 41 with curvilinear ends 42 and 43 adapted to engage the rods of the structure of basket 3. In particular, the curvilinear end 42 always engages a rod 44 of the side wall 31 of the basket, while the curvilinear end 43 engages a rod 46 belonging to the side wall 31, when shelf 1 is in the rest position B, and engages a rod 45 belonging to the structure of basket 3, for example belonging a front wall or a rear wall of the basket, when shelf 1 is in the working position A.

[0014] In order to arrange shelf 1 in the working position A from the rest position B, the shelf needs to be lifted upwards until the curvilinear end 43 no longer engages the rod 46, turned downwards and arranged so that the same curvilinear end 43 engages the rod 45.

[0015] In order to return shelf 1 from the working position A to the rest position B, the shelf needs to be substantially lifted upwards until the curvilinear end 43 no longer engages the rod 45, turned upwards and arranged so that the same curvilinear end 43 engages the rod 46.

Claims

1. A combination of first (1) and second (2) shelves for dishwasher basket (3), said basket comprising a structure with a bottom (32) and at least one wall (31) which is vertical to the bottom, said second shelf (2) being arranged underneath said first shelf (1) and both shelves comprising means (5-8) for placing said shelves either in a working position (A, C) for loading the tableware or in a rest position (B, B') in a reciprocally independent manner, **characterized in that** said first and second shelves each comprises a plurality of teeth (12, 21) with corresponding appendixes (13, 22) at a given distance (D, D1) from one another, said second shelf being configured so that each tooth (21) from the plurality of teeth (12) of said second shelf is arranged between two consecutive teeth from the plurality of teeth of the first shelf (1) with said first and said second shelves being in the rest position (B, B').
2. A combination according to claim 1, **characterized in that** said basket comprises a rod structure and said placing means comprise hooks (7, 8) of said first (1) and second (2) shelves pivotally engaged with first (5) and second (6) rods belonging to said at least one wall of the basket.
3. A combination according to claim 1, **characterized in that** in said rest position (B, B'), said first and second shelves are arranged in a substantially vertical manner, and in said working position (A, C) said first and second shelves are arranged so as to be inclined by a given angle (P, P'') with respect to a vertical axis (X).
4. A combination according to claim 1, **characterized in that** said basket comprises a rod structure and **in that** it comprises means (40) for arranging at least one of either said first (1) or second (2) shelf in the working position (A, C) and in the rest position (B, B'), said means (40) comprising at least one element (41) with first (42) and second (43) curvilinear ends adapted to engage the rods of the structure of the basket (3), the first curvilinear end (42) being always engaged with a rod (44) of the at least one wall of

the basket, while the second curvilinear end (43) being engaged with a rod (46) belonging to the wall (31) of the basket when said at least one shelf (1, 2) is in the rest position (B, B') and engaging a rod (45) belonging to the structure of the basket when said at least one shelf (1, 2) is in the working position (A, A', C), said means allowing to pass from the rest position to the working position and vice versa of said at least one shelf (1, 2) by lifting the shelf upwards so as to release the second curvilinear end (43) from the rod (46) belonging to the wall (31) of the basket and placing the shelf so as to allow the connection of the second curvilinear end (43) to said rod (45) belonging to the structure of the basket and vice versa, respectively.

Patentansprüche

1. Kombination aus einer ersten (1) und einer zweiten (2) Ablage für einen Spülmaschinenkorb (3), wobei der Korb eine Struktur mit einem Boden (32) und mindestens einer sich senkrecht zum Boden erstreckenden Wand (31) aufweist, wobei die zweite Ablage (2) unter der ersten Ablage (1) angeordnet ist und beide Ablagen Mittel (5 - 8) zum Platzieren der Ablagen auf eine wechselseitig unabhängige Weise entweder in einer Arbeitsposition (A, C), in der sie mit Geschirr beladen werden können, oder in einer Ruheposition (B, B') aufweisen; **dadurch gekennzeichnet, dass** die erste und die zweite Ablage jeweils mehrere Zähne (12, 21) mit zugehörigen Fortsätzen (13, 22) in einem vorgegebenen Abstand (D, D1) voneinander aufweisen, wobei die zweite Ablage derart konfiguriert ist, dass jeder Zahn (21) der mehreren Zähne (12) der zweiten Ablage zwischen zwei aufeinanderfolgenden Zähnen der mehreren Zähne der ersten Ablage (1) angeordnet ist, wenn die erste und die zweite Ablage sich in der Ruheposition (B, B') befinden.
2. Kombination nach Anspruch 1, **dadurch gekennzeichnet, dass** der Korb eine Struktur aus Stäben aufweist und die Platzierungsmittel Haken (7, 8) der ersten (1) und der zweiten (2) Ablage aufweisen, die mit ersten (5) und zweiten (6) Stäben, die der mindestens einen Wand des Korbs zugehörig sind, drehbar in Eingriff stehen.
3. Kombination nach Anspruch 1, **dadurch gekennzeichnet, dass** die erste und die zweite Ablage in der Ruheposition (B, B') im Wesentlichen vertikal angeordnet sind und dass die erste und die zweite Ablage in der Arbeitsposition (A, C) derart angeordnet sind, dass sie unter einem vorgegebenen Winkel (P, P'') bezüglich einer vertikalen Achse (X) geneigt sind.

4. Kombination nach Anspruch 1, **dadurch gekennzeichnet, dass** der Korb eine Struktur aus Stäben aufweist, und dadurch, dass sie Mittel (40) zum Anordnen der ersten (1) und/oder der zweiten (2) Ablage in der Arbeitsposition (A, C) und in der Ruheposition (B, B') aufweist, wobei die Mittel (40) mindestens ein Element (41) mit einem ersten (42) und einem zweiten (3) gekrümmten Ende aufweisen, die dazu geeignet sind, mit den Stäben der Struktur des Korbs (3) in Eingriff zu kommen, wobei das erste gekrümmte Ende (42) immer mit einem Stab (44) der mindestens einen Wand des Korbs in Eingriff steht, während das zweite gekrümmte Ende (43) mit einem der Wand (31) des Korbs zugehörigen Stab (46) in Eingriff steht, wenn die mindestens eine Ablage (1, 2) sich in der Ruheposition (B, B') befindet, und mit einem der Struktur des Korbs zugehörigen Stab (45) in Eingriff steht, wenn die mindestens eine Ablage (1, 2) sich in der Arbeitsposition (A, A', C) befindet, wobei die Mittel ermöglichen, die mindestens eine Ablage (1, 2) von der Ruheposition zur Arbeitsposition und umgekehrt zu bewegen, indem die Ablage nach oben angehoben wird, um das zweite gekrümmte Ende (43) von dem der Wand (31) des Korbs zugehörigen Stab (46) zu lösen, und die Ablage angeordnet wird, um die Verbindung des zweiten gekrümmten Endes (43) mit dem der Struktur des Korbs zugehörigen Stab (45) und umgekehrt zu erlauben.

Revendications

1. Combinaison de première (1) et seconde (2) étagères pour panier (3) de lave-vaisselle, ledit panier comprenant une structure pourvue d'un fond (32) et d'au moins une paroi (31) qui est verticale par rapport au fond, ladite seconde étagère (2) étant située sous ladite première étagère (1) et les deux étagères comprenant des moyens (5-8) pour placer lesdites étagères soit dans une position de fonctionnement (A, C) pour chargement de vaisselle, soit dans une position de repos (B, B') de manière mutuellement indépendante, **caractérisée en ce que** lesdites première et seconde étagères comprennent chacune une pluralité de dents (12, 21) pourvues d'appendices correspondants (13, 22) à une distance donnée (D, D1) les unes des autres, ladite seconde étagère étant conçue de manière que chaque dent (21) de la pluralité de dents (12) de ladite seconde étagère soit agencée entre deux dents consécutives de la pluralité de dents de la première étagère (1), lesdites première et seconde étagères se trouvant dans la position de repos (B, B').
2. Combinaison selon la revendication 1, **caractérisée en ce que** ledit panier comprend une structure de tiges et lesdits moyens de placement comprennent des crochets (7, 8) desdites première (1) et seconde (2) étagères engagés de manière pivotante avec des première (5) et deuxième (6) tiges appartenant à ladite au moins une paroi du panier.
3. Combinaison selon la revendication 1, **caractérisée en ce que**, dans ladite position de repos (B, B'), lesdites première et seconde étagères sont agencées de manière sensiblement verticale, et dans ladite position de fonctionnement (A, C), lesdites première et seconde étagères sont agencées de manière à être inclinées d'un angle donné (P, P") par rapport à un axe vertical (X).
4. Combinaison selon la revendication 1, **caractérisée en ce que** ledit panier comprend une structure de tiges et **en ce qu'**il comprend un moyen (40) pour agencer au moins ladite première (1) ou seconde (2) étagère dans la position de fonctionnement (A, C) et dans la position de repos (B, B'), lesdits moyens (40) comprenant au moins un élément (41) ayant des première (42) et seconde (43) extrémités curvilignes aptes à engager les tiges de la structure du panier (3), la première extrémité curviligne (42) étant toujours engagée avec une tige (44) de l'au moins une paroi du panier, tandis que la seconde extrémité curviligne (43) est engagée avec une tige (46) appartenant à la paroi (31) du panier lorsque ladite au moins une étagère (1, 2) se trouve dans la position de repos (B, B') et engage une tige (45) appartenant à la structure du panier lorsque ladite au moins une étagère (1, 2) se trouve dans la position de fonctionnement (A, C), lesdits moyens permettant de passer de la position de repos à la position de fonctionnement, et inversement, de ladite au moins une étagère (1, 2) en soulevant l'étagère vers le haut de manière à libérer la seconde extrémité curviligne (43) depuis la tige (46) appartenant à la paroi (31) du panier et en plaçant l'étagère de manière à permettre la connexion de la seconde extrémité curviligne (43) à ladite tige (45) appartenant à la structure du panier, et inversement, respectivement.

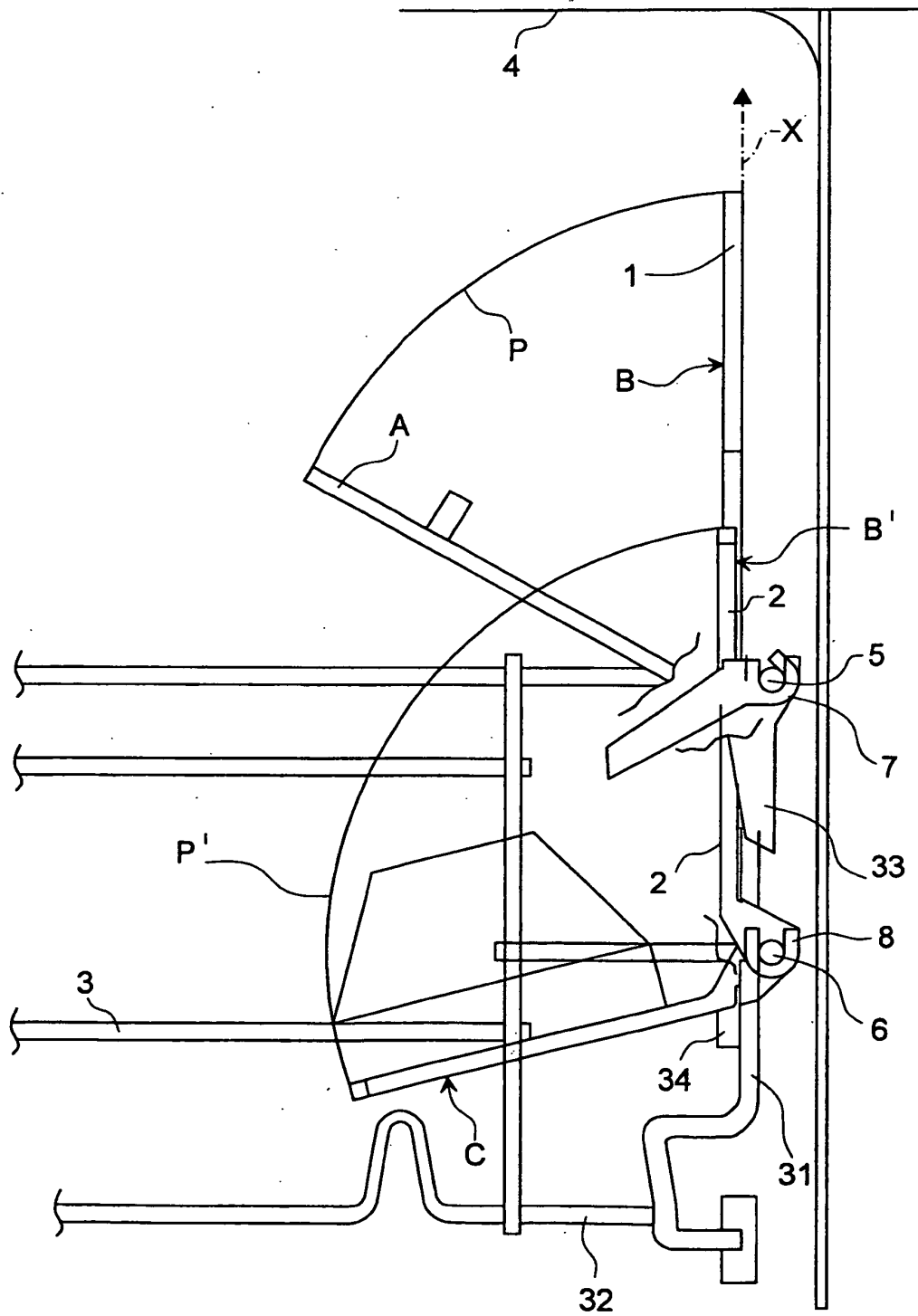


Fig.1

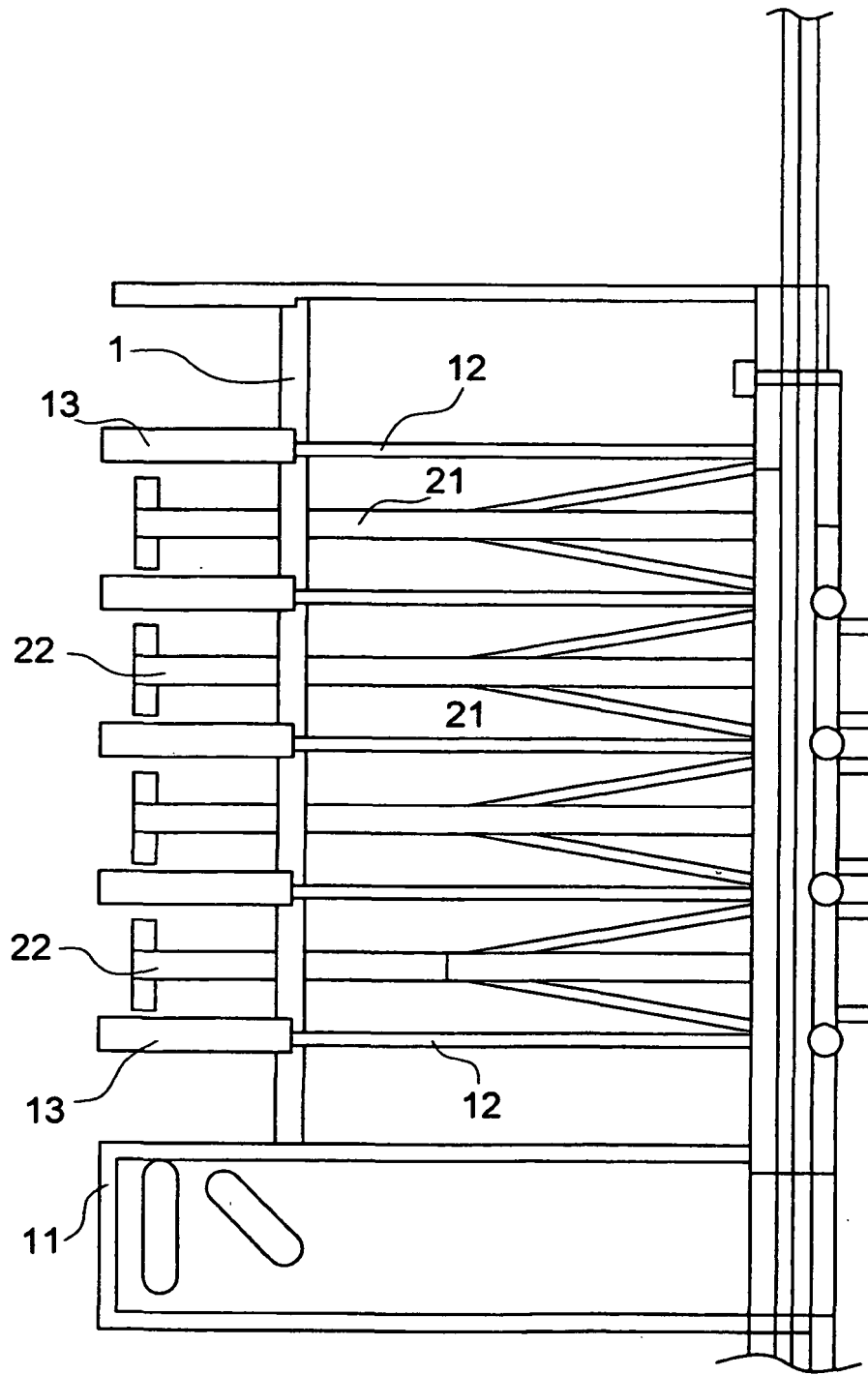


Fig.2

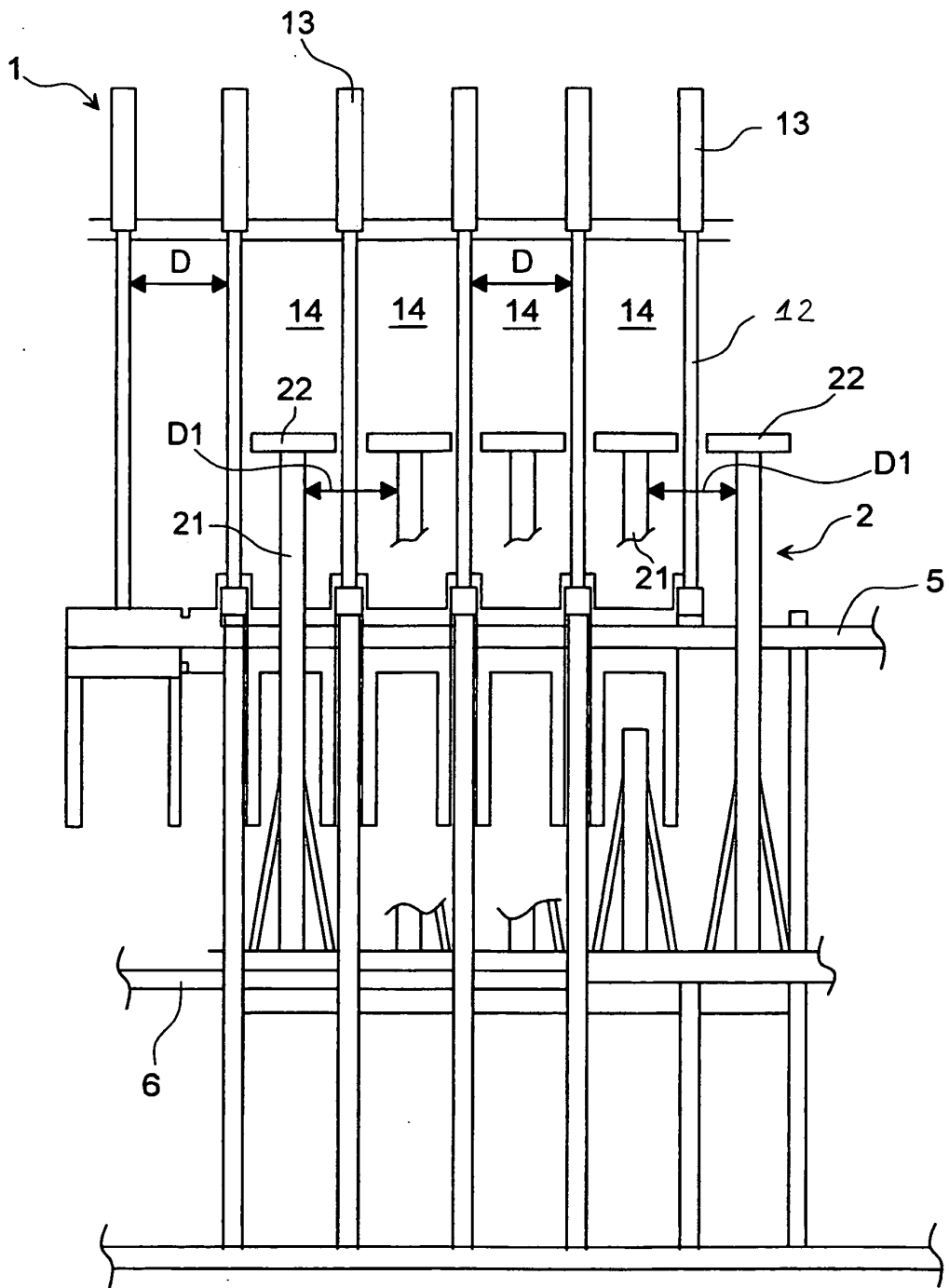


Fig.3

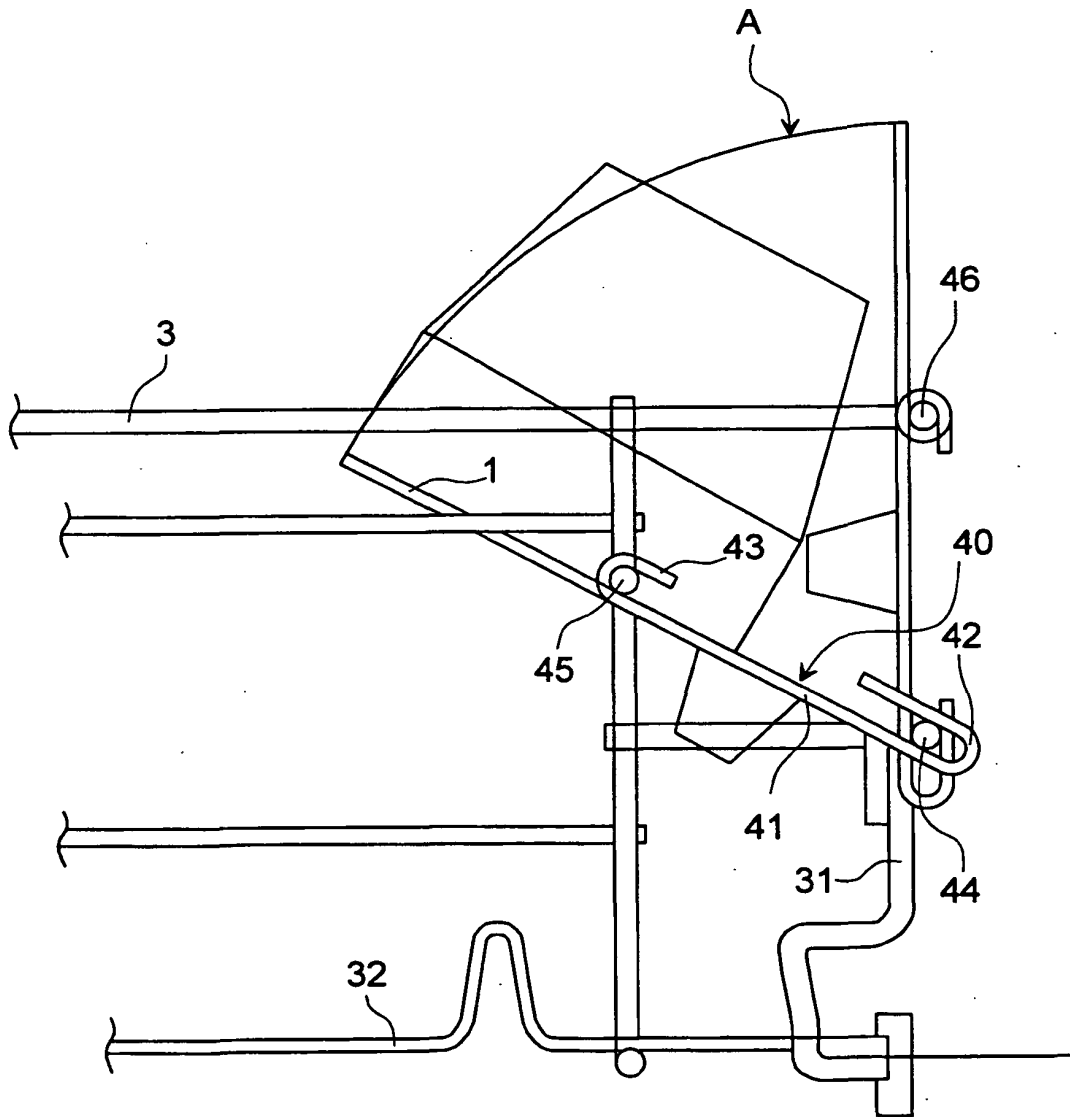


Fig.4

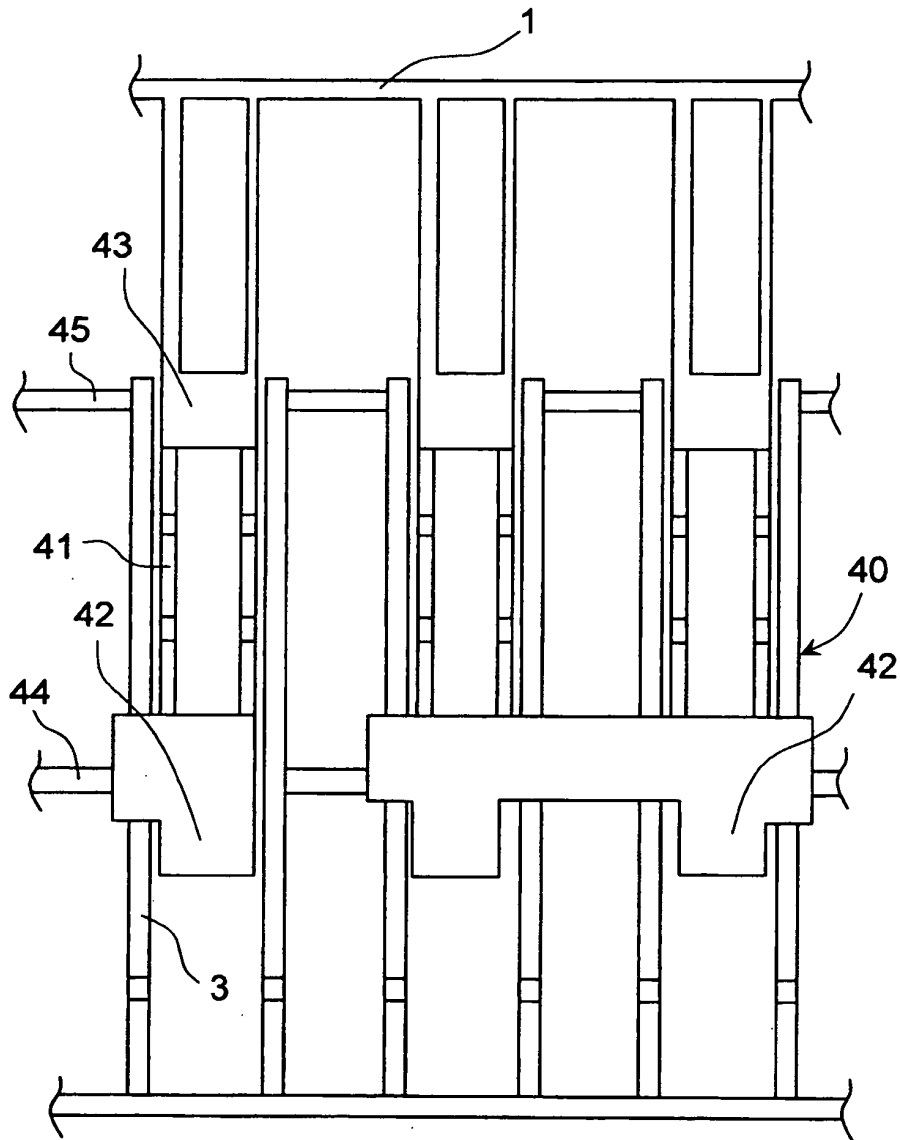


Fig.5

REFERENCES CITED IN THE DESCRIPTION

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