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

(57) A combination of first (1) and second (2) shelves for dishwasher basket (3) is described; the basket comprises a rod structure with a bottom (32) and at least one wall (31) which is vertical to the bottom. The first (1) and second (2) shelves are pivotally connected to first (5) and second (6) rods belonging to said at least one wall of the basket for placing said shelves in a working position (A, C) for loading tableware or in a rest position (B, B') in a reciprocally independent manner. Preferably the first and second shelves each comprise a plurality of teeth (12, 21) with corresponding appendixes (13, 22) at a given distance (D, D') from one another; the second shelf is configured so that each tooth (21) from the plurality of teeth of said second shelf is arranged between two consecutive teeth (12) from the plurality of teeth of the first shelf (1) with said first and second shelves being in a rest position (B, B'). (Fig. 1)

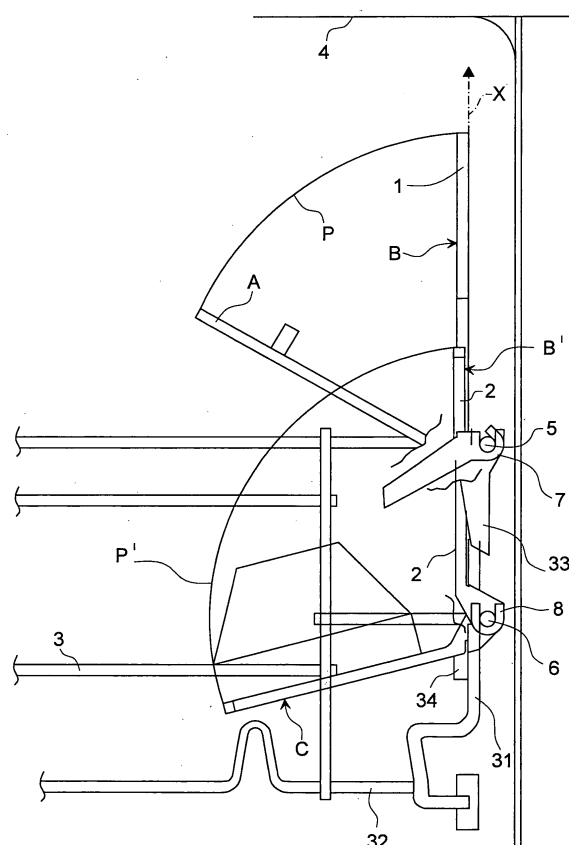


Fig.1

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] 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.

[0004] 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, characterized in that said second shelf is arranged underneath said first shelf and both shelves comprise means for placing said shelves either in a working position for loading the tableware or in a rest position in a reciprocally independent manner.

[0005] Preferably said first and said second shelves each comprising 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 a 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, pref-

erably 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 D' 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 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, **characterized in that** said second shelf (2) is arranged underneath said first shelf (1) and both shelves comprise 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. 5
2. A combination according to claim 1, **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, D') 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 (12) from the plurality of teeth of the first shelf (1) with said first and said second shelves being in the rest position (B, B'). 10 15 20 25 30
3. 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. 35 40
4. 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). 45
5. 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 50 55

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.

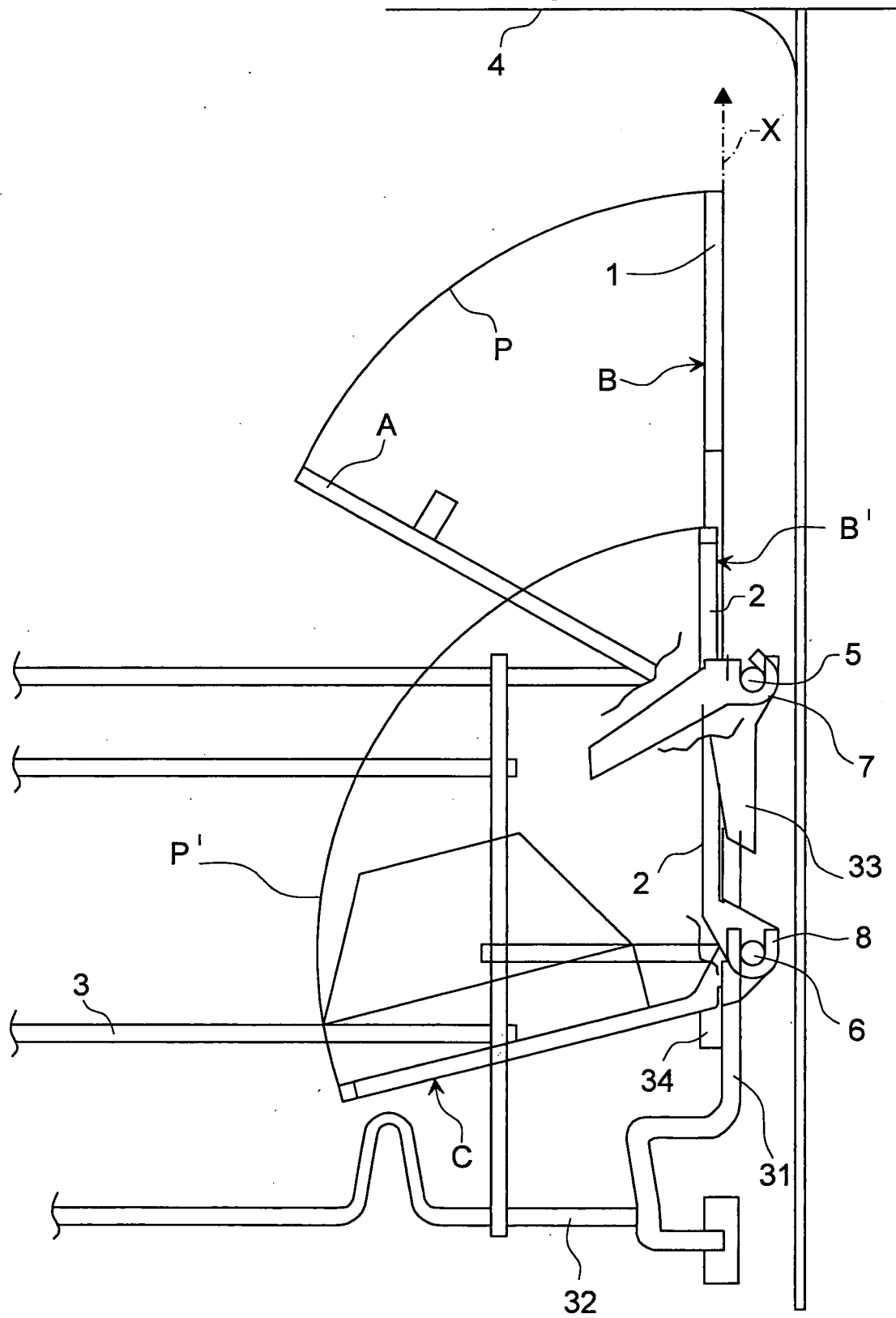


Fig.1

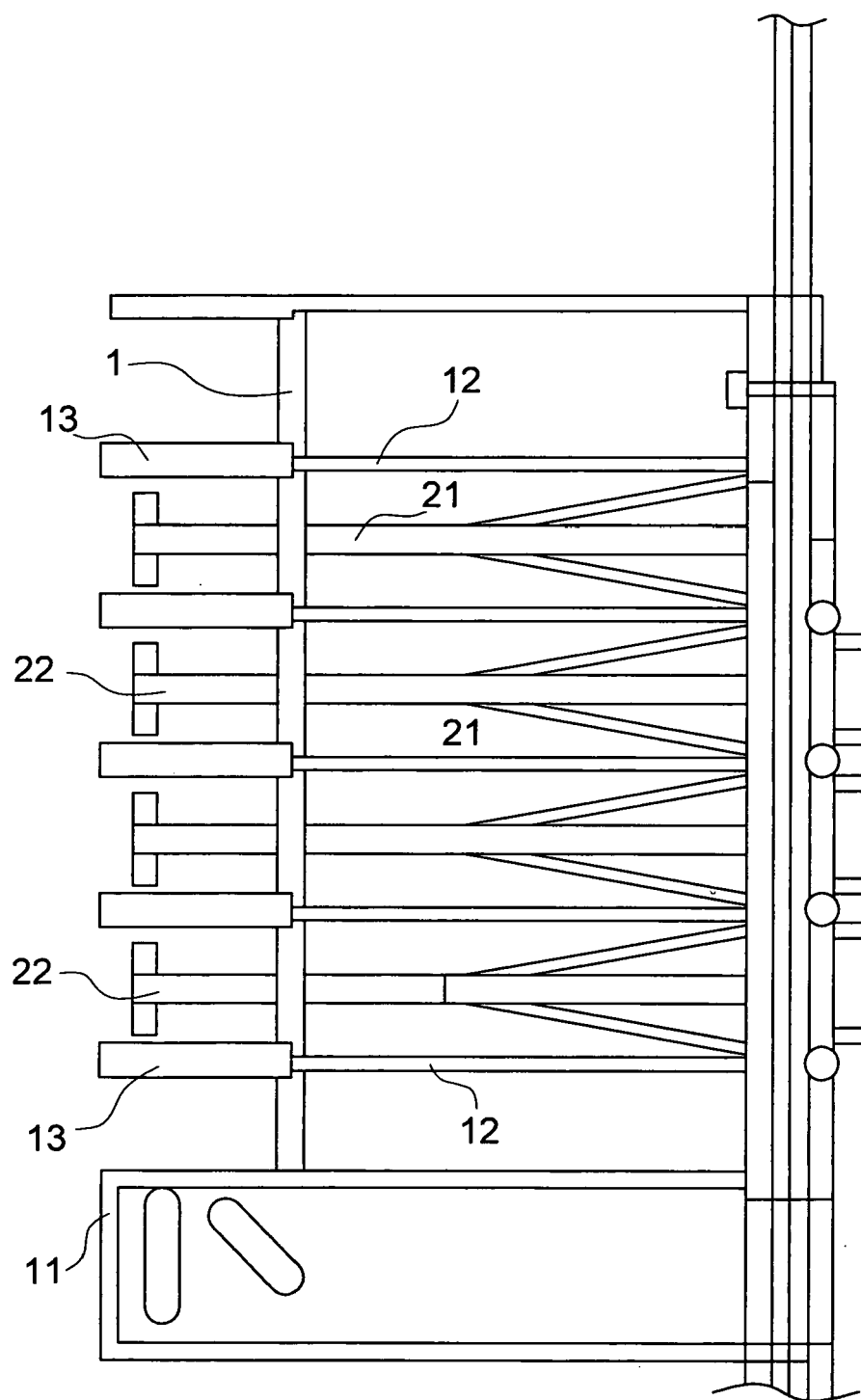


Fig.2

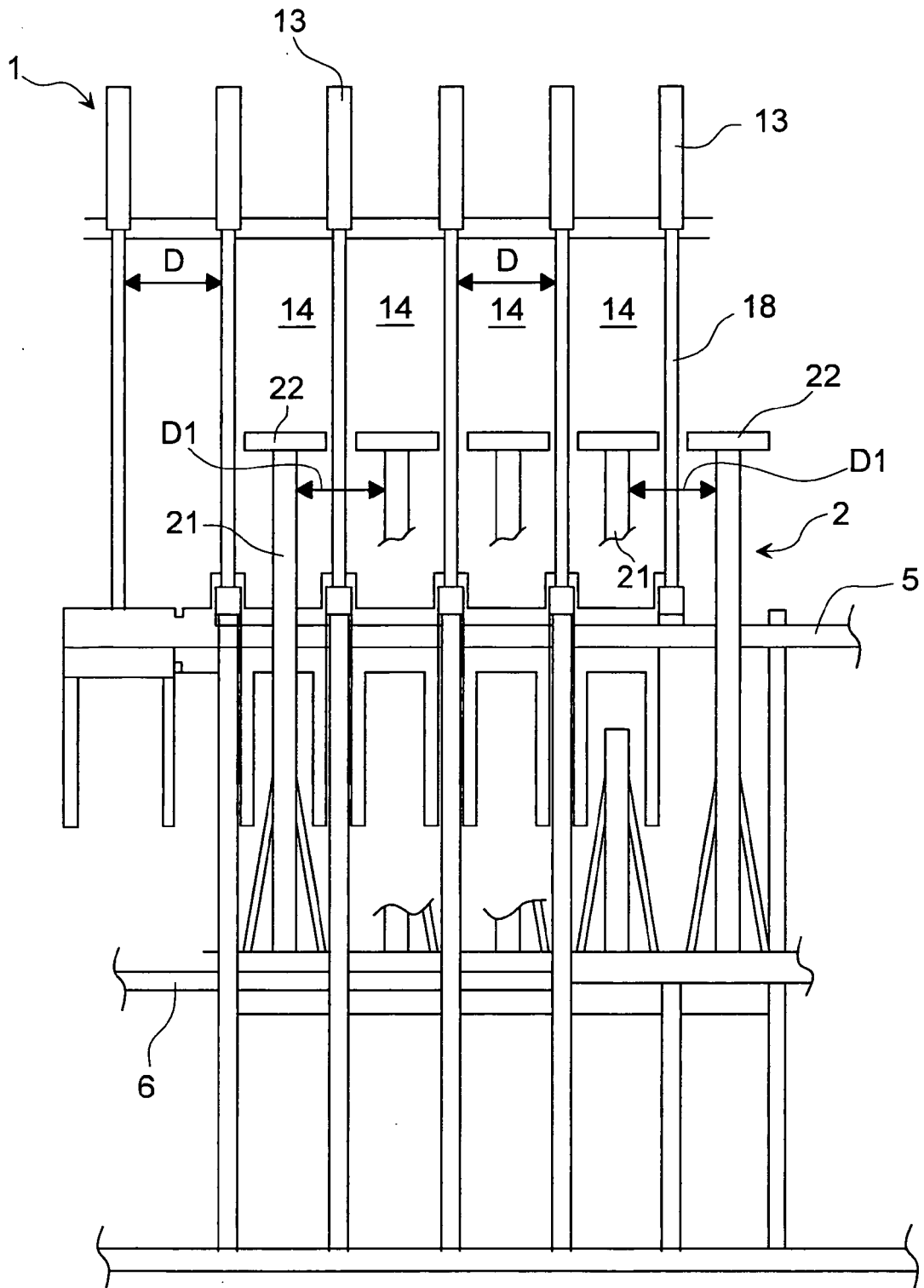


Fig.3

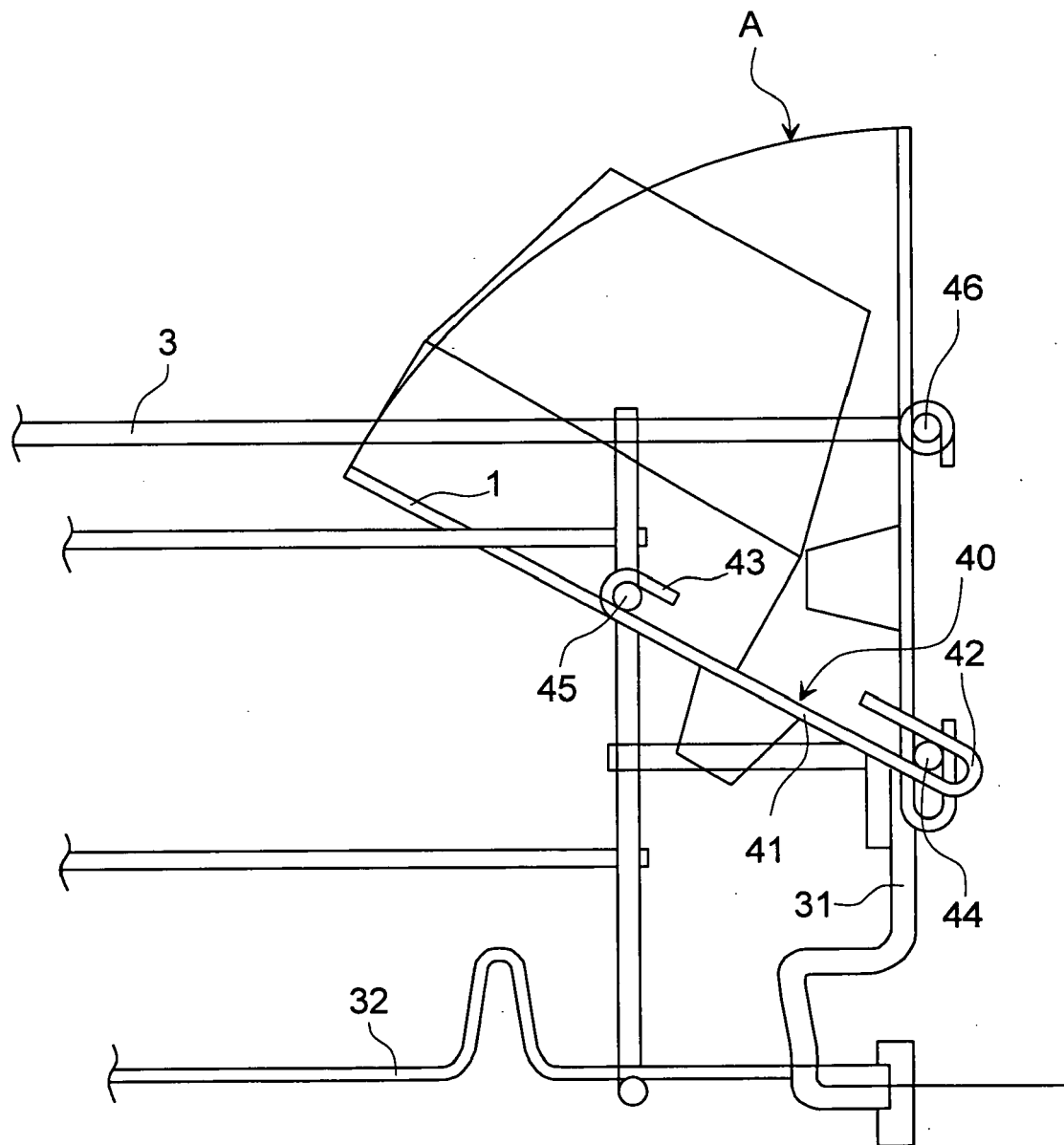


Fig.4

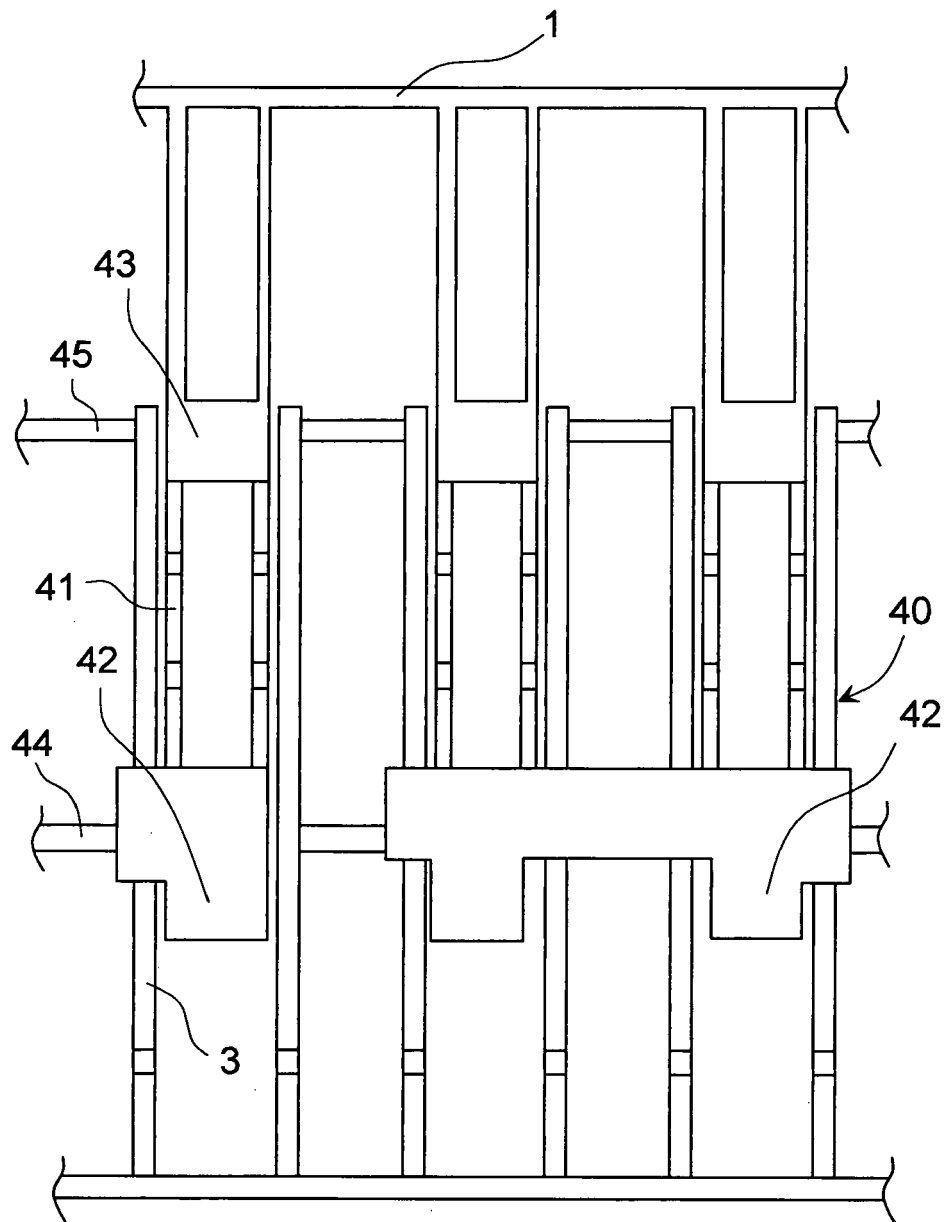


Fig.5



EUROPEAN SEARCH REPORT

Application Number
EP 09 42 5457

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 21 April 2010	Examiner Lodato, Alessandra
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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