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(54) **A pair of supports to install bath tubs.**

(57) This invention relates to a pair of supports (1) to install bath tubs, each one of said supports (1) being made up of a structure in the shape of a segment of cylindrical wall and realized as a single piece, said structure being also provided at its lower portion with adjustable feet (2) and at its top portion with at least two supporting members in the shape of suction cups (3) which are arranged laterally on said structure and in the raised position with respect to the upper plane of the structure in the shape of a suction cup (3), and arranged between said two supporting members in the shape of suction cups (3), and endowed with vertical clearance.

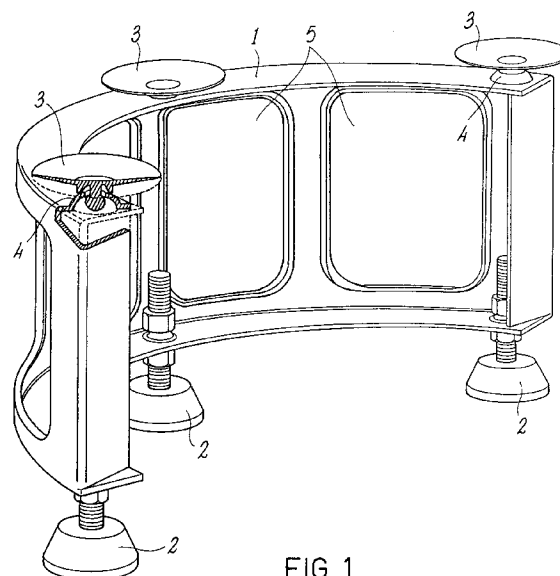


FIG. 1

This invention relates to a pair of supports for installing bath tubs.

More particularly, this invention relates to supports that can be employed with any type of bath tubs independently of the shape of the bottom of the bath tub itself.

Supports of the type according to this invention have already been the object of preceding patent applications.

In particular, the German patent DE 3622919 discloses a device in which three legs are provided, such legs being aligned on the same plane and being of the same height. The three legs realize a single-piece unit which is supported by means of adjustment pins, a plate being arranged on the support surface. In that case, the two adjustment pins are arranged in the zone of the two legs which are arranged along the line that extends transversely to the longitudinal median axis.

Such solution does not allow, in the case in which the bottom of the tub is convex in the longitudinal and the transverse direction, the legs to be put perpendicularly, so that the support of the load is not optimal and couples are formed that have the tendency to tilt and to overturn the tub.

The German patent no. 2726211 suggests a solution consisting of a three-leg framework, said legs being placed on the same plane and facing the bath tub, and carrying an adjustment pin at their lower ends. Such pins, in the case of a bulged bottom the support in static balance, but anyway the situation that occurs is that of legs which diverge from the perpendicular position.

More recently, an improved solution has been suggested in the German patent No. 3803704 with respect to the solutions mentioned above, because such suggestion was able to realize an optimal support keeping the legs themselves perpendicular in spite of the bulged bottom of the tub itself.

Such result has been obtained by making the three legs in the shape of a three-leg framework arranged on a supporting surface in the shape of a triangle, and wherein the central leg is of a different length with respect to the side legs, so that it can adapt itself to the bulge of the bottom of the tub.

The device disclosed in that patent is very complicated from the structural standpoint and difficult to realize, and in addition the cost for its realization is quite high, though said device succeeds in solving the problems occurring in the prior art.

With a view to the above results, the Applicant has realized accordingly a support for installing bath tubs, said support being realized structurally so that it can adapt itself to the bulging of the tub and, in addition, it is very simple and strong from the constructive standpoint, so that an optimal support of a bath tub is obtained through a device which does not require particularly complex operations for its realization, such

result being also obtained at a definitely competitive cost.

Such results are obtained according to the present invention by realizing a pair of supports, each one of them being substantially made up of a vertical member in the shape of an arc of circumference which provides at the top a plurality of supporting members in the shape of suction cups, which can be oriented, and at the lower portion a set of adjustable feet.

Accordingly, it is a specific object of this invention a pair of supports for installing bath tubs, each one of said supports being made up of a structure in the shape of a segment of cylindrical wall, said structure being realized as a single piece and being provided at its lower portion with adjustable feet and, at its top portion, with at least two supporting members in the shape of suction cups, said members being arranged laterally on said structure, in a raised position with respect to the upper plane of the structure itself, and at least a supporting member in the shape of a suction cup, said member being arranged between the two said lateral supporting members in the shape of suction cups, said supporting member being endowed with a vertical clearance.

Preferably, according to this invention, said two lateral supporting members in the shape of suction cups are provided with an articulate joint.

Again according to this invention, the vertical wall of the structure is provided with openings, preferably in number of four, for the purpose of making the whole structure lighter.

Further according to this invention, the supports will be realized with a metal or a plastic material, and they will be provided with three adjustable feet, with two supporting members in the lateral position and in the shape of suction cups, said members being arranged on two raised parts, and with a central member in the shape of a suction cup.

This invention will be disclosed in the following just for illustrative and not for limitative purposes, with particular reference to a preferred kind of embodiment, which is shown in Figure 1 and consists in a perspective view of the embodiment itself.

As can be easily observed, said figure shows just a supporting member 1 according to this invention, while it is evident that the other one will be identical.

The support 1 is realized as a single piece and is in the shape of a segment of cylindrical wall.

The support 1 is provided at its lower portion with three adjustable feet 2 of known type, which serve the purpose of adapting the support itself to the support surface (the floor) while keeping its vertical position.

The number of said feet 2 can be obviously changed at will, even though one can suppose that three feet can ensure an optimal support.

On the contrary, the suction cups 3 are provided in the upper portion of the supporting member 1.

Two of such suction cups are provided at the side

ends of the support 1, and they are arranged on two raised portions 4 that put them on a plane slightly raised with respect to the upper plane of the supporting member 1, and in addition such suction cups are provided with an articulated joint, so that they can adapt themselves to the shape of the bottom of the tub.

A third suction cup 3 is arranged directly on the support 1 and it is endowed with a slight vertical clearance.

Such type of structure (the articulated joints on the lateral suction cups 3; the vertical clearance on the central suction cup) causes the tub to rest at least on two points in any case, once the tub itself has been installed.

The configuration of the support 1 according to this invention, with a continuous upper surface, allows the number of suction cups 3 to be changed according to the particular needs, by distributing said suction cups along the arc of the circumference.

The vertical structure of the support 1 is provided with openings 5 that make it lighter without reducing its strength. The number of said openings 5 can also be changed according to the particular technical requirements and choices.

It can be concluded from the above that the support according to the present invention is extremely simple from the constructive standpoint, because its structure is realized as a single piece and it is capable of realizing an optimal support for a tub, and in addition it can be very easily adapted to any specific requirements without modifying its structure substantially.

This invention has been disclosed with specific reference to some preferred kinds of embodiment, but it is to be understood that modifications and/or changes can be introduced by those who are skilled in the art without departing from the spirit and scope of the invention for which a priority right is claimed.

Claims

1. A pair of supports for installing bath tubs, said pair being characterized in that each one of said supports is made up of a structure in the shape of a cylindrical wall, which is realized as a single piece and is provided at its lower portion of adjustable feed and, at its top portion, with at least two supporting members in the shape of suction cups and arranged laterally on said structure, in a raised position with respect to the upper plane of the structure itself, and at least a supporting member in the shape of suction cups, said member being arranged between said two lateral supporting members in the shape of suction cups, and being endowed with vertical clearance.
2. A pair of supports according to claim 1, characterized in that said two supporting members in the shape of suction cups and arranged laterally are provided with articulated joints.
3. A pair of supports according to any one of the preceding claims, characterized in that the vertical wall of said structure in the shape of a segment of cylindrical wall is provided with openings for the purpose of making the whole structure lighter.
4. A pair of supports according to claim 3, characterized in that four openings are provided.
5. A pair of supports according to any one of the preceding claims, characterized in that said structure is made up of a metallic material.
6. A pair of supports according to any one of the preceding claims 1-4, characterized in that said structure is realized with a plastic material.
7. A pair of supports according to any one of the preceding claims, characterized in that said two supporting members in the shape of suction cups are arranged on two raised portions.
8. A pair of supports according to any one of the preceding claims, characterized in that each one of said supports is provided with three adjustable feet, with two supporting members in the shape of suction cups and arranged laterally, and with a central member in the shape of a suction cup.

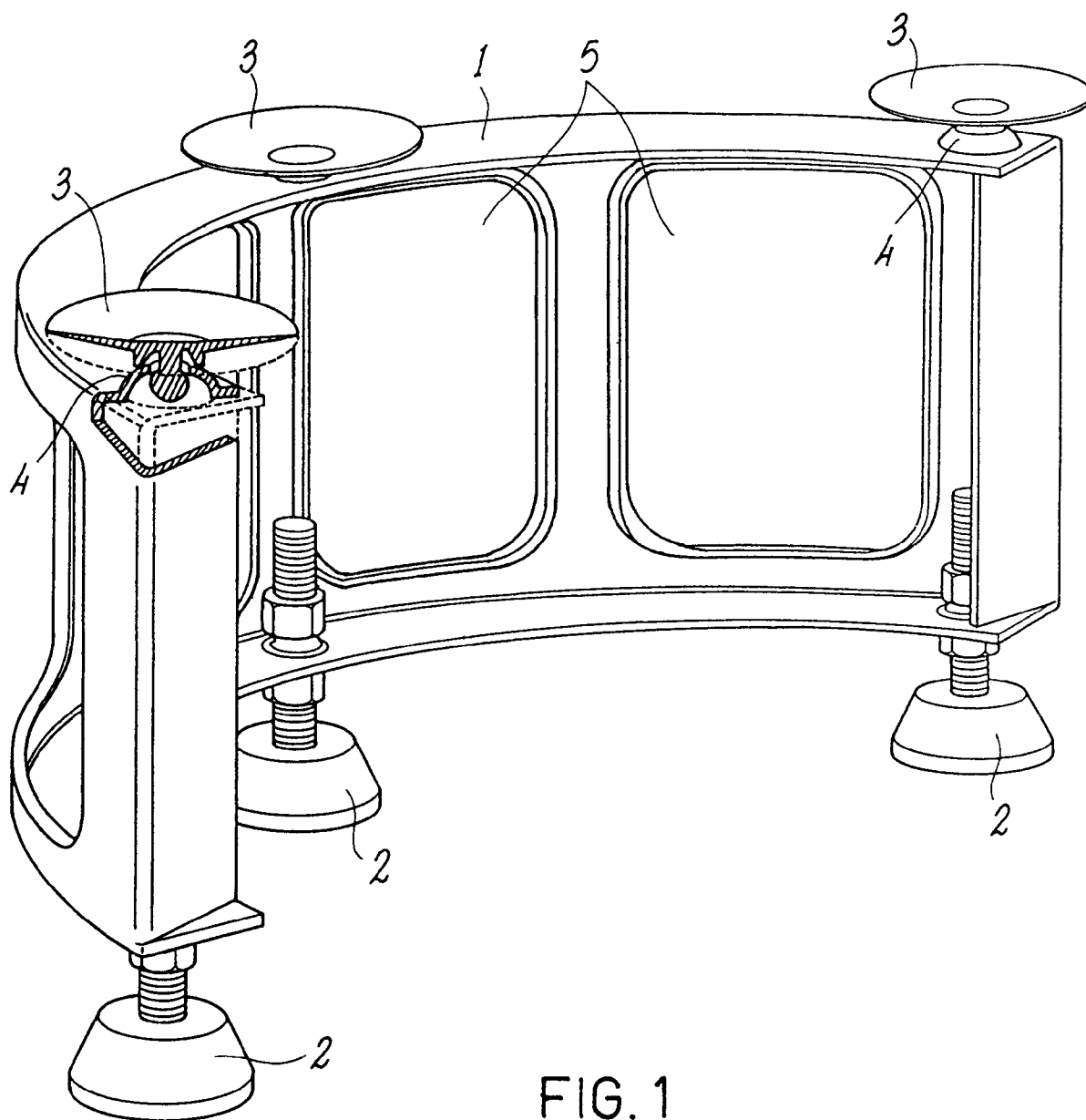


FIG. 1



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number

EP 92 83 0094

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A, D	DE-A-3 803 704 (KALDEWEI) * the whole document *	1, 7, 8	A47K3/16
A, D	DE-A-3 622 919 (KALDEWEI) * the whole document *	1	
A, D	DE-A-2 726 211 (KALDEWEI)		
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			A47K
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 05 JUNE 1992	Examiner CLASING M. F.
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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