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(71) Applicant : **Lasa Azpitarte, Armando**
Paquey 8
E-20600 Eibar (Guipuzcoa) (ES)

(72) Inventor : **Lasa Azpitarte, Armando**
Paquey 8
E-20600 Eibar (Guipuzcoa) (ES)

(74) Representative : **Gonzalez Palmero, Fé**
Calle Sagasta, 4
E-28004 Madrid (ES)

(54) Support for attachment to baths.

(57) This is a support in the form of a bridge which is fixed to the upper edge of the bath, in order to give the user of the bath somewhere to hold on to so that he/she can stand up or get into the bath confortably ; the said bridge can be adjusted to various sizes thanks to the fact that its constituent parts (11,15) are inserted telescopically into angular elements (12,13) and their adjustment is easily carried out by means of levers (14).

An effective adjustment is made by a lever that moves the horizontal tubular element of the said bridge by means of a spindle.

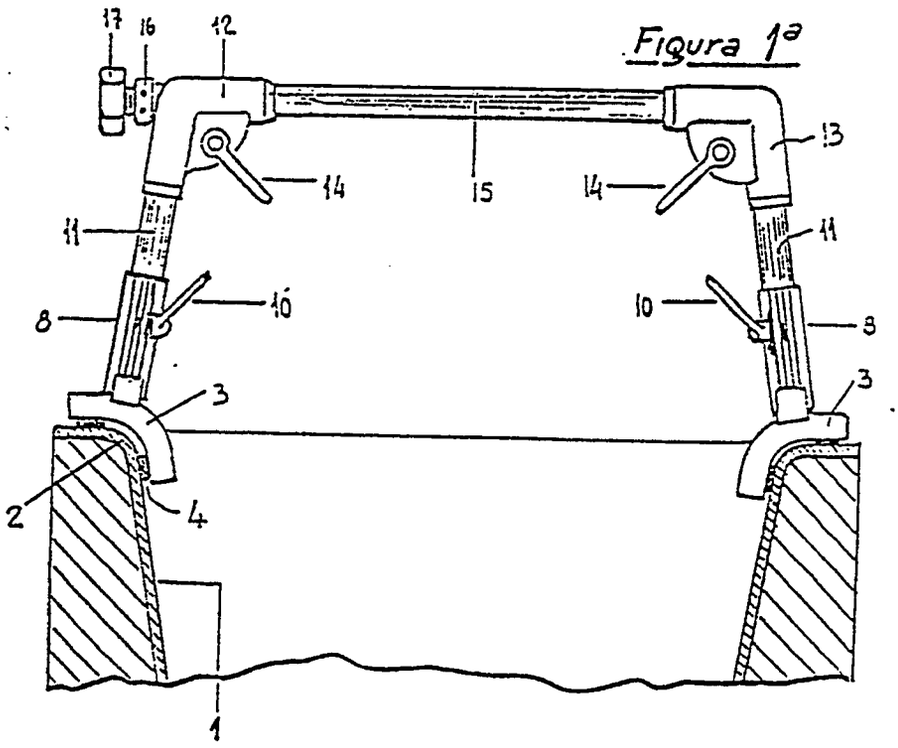

Figura 1ª

EP 0 448 502 A1

SUPPORT FOR ATTACHMENT TO BATHS

ENGINEERING SECTOR to which invention belongs.

The invention is directed towards the manufacture of sanitary ware accessories and in particular refers to a support for attachment to baths.

ENGINEERING CONDITIONS prior to the date of application.

There are supports for attachment to the edge of baths, but their purpose is to provide a seating area.

There is no support on the market for fixing to the edge of baths for the purpose of:

- Holding on to, while standing up in the bath.
- Holding on to, while using the shower.
- Holding on to, when getting into the bath.

EXPLANATION OF THE INVENTION. Concerning the arrangement of the constituent elements.

This support, the object of the present Patent of Invention, is made up in the form of a bridge, which is fitted on/against the edges of the bath.

It offers the possibility of setting variable heights.

In the same way, it may also be adapted to different widths of bath.

The measurement adjustment is made by means of a simple manipulation of levers and the telescopic movement of the tubular elements.

The final attachment is made after carrying out the following operations:

- Adjustment of height, by means of the handles -10-.

  They are loosened, the measurement is adjusted and the handles are tightened again.
- Estimation of width, by means of the handles -14-.

  When the width has been estimated, the handle on the right -14- is fixed, as seen in figure 1.
- Firm attachment to the edges of the bath by means of turning the handle -17- as seen in figure 3.

Once a firm attachment has been made, the lock nut -16- is fixed, as shown in figure 4.

Finally the handle -14- on the left must be turned (figure 1, and the fixture is then final).

EXPLANATION OF THE INVENTION. With regard to operation.

Operation has already been described in a general way, but will now be explained in more detail:

The bridge assembly is placed in position on the edges of the bath.

The appropriate measurement adjustments are made.

The actual operation is that carried out in order to achieve a firm attachment of the parts -4- against the said edge of the bath -2-.

The attachment is multiple.

The pressure of the attachment is made as follows:

By observing figure 3 and by turning the handle -17-, the spindle -21- is turned. The revolving movement is achieved in view of the fact that the part -20- bears the spindle -21- on one side and the part -19- on the other, which rests on the orifice of the part -12-, and that the said part -19- is extended to form a dowel screw -18- to which the handle -17- is fixed by its threaded collar -24- and the joint is made fast by means of the nut -23-.

The handle -17- is also screwed onto the dowel screw -18-.

Under the conditions of figure 3, any turn of the handle -17- causes the spindle to turn and the consequent displacement of the part -15- to which the nut -12- is joined.

This revolving movement determines the firm attachment of the assembly to the edge of the bath.

After this tightening movement, its position is guaranteed by means of the lock nut -16- which is set as in figure 4.

Some improvements have been introduced by means of the Certificate of Addition.

Basically, the introductions are the following:

- The obtention of greater security in the attachment of the bridge as a whole in order to avoid any accidents as a result of slipping.
- The bridge or support for attachment on baths is fundamentally maintained.
- The end appendages -3- of the frame -7- will be provided with a joint -25- from which will hang a pair of SUCTION CUPS -28- to be affixed to the inside surface of the bath.

  This solution is depicted in the attached Figure 8.
- However, in some cases, when the danger of slipping is not so great, the placing of a sole SUCTION CUP in the centre of the frame -7- will be sufficient, as shown in Figure 9.
- Figure 7 shows the side view of how the SUCTION CUP is attached.
- This type of suction cup is already known in other applications. The important point, however, is the incorporation of the said suction cup to the appliance or support that is the object of the Patent of Invention.

As regards the general operation of the SUP-

PORT, this is the same as that already described in the main patent application, but the following points may be made:

In achieving greater stability of the assembly by obtaining a firmer attachment by means of the suction cups included:
THE ASSEMBLY AND ADJUSTMENT of the various widths is simplified.

It is therefore possible, in these cases, to exclude the adjustment device of the spindle which appears in Figures 3 and 4.

The breakdown of the improvements as a whole is that shown in Figure 2, which depicts the arrangement of the parts to facilitate packing.

DESCRIPTION OF THE ACCOMPANYING DRAWINGS. Concerning that shown in each of the figures used.

Figure 1. View of the support in elevation, when placed on opposite sides -2- of the bath.

Figure 2. View of the combined parts ready for assembly, after addition of the improvements of the suction cups, which are introduced in the Certificate of Addition.

Figure 3. Firm attachment device. The position shown is that in which the handle -17- may be turned to make the attachment.

Figure 4. Firm attachment device, after locking into position. After firm attachment has been achieved.

Figure 5. View showing details of the parts, four in number, which are attached to the ends -6- of each supporting leg. Each of these parts is provided with elastic plugs -4- which give perfect adherence of the assembly to the edge of the bath.

Figure 6. Side view of each of the parts that serve as a base for each leg of the support.

Figure 7. Side view showing the arrangement of the SUCTION CUPS on the inside surface of the bath.

Figure 8. View of one of the base supports on the bath when provided with TWO SUCTION CUPS placed on the ends of the horizontal element -7-.

Figure 9. View of one of the base supports on the bath when provided with one SUCTION CUP in the centre.

DESCRIPTION OF THE VARIOUS PARTS OF THE INVENTION.

Reference is made to the different signs that have been used in the accompanying drawings, which also point to the relationship between the various elements, both as regards operational order and assembly.

1. Representation of a bath, on the edges of which is to be placed the support concerned in this Patent of Invention.
2. Edges of the bath, on which the support rests and is fixed.
3. Curved parts, four in number, which determine the base of the support assembly in the form of a bridge.

These curved parts, which are shown in figure 5, are provided with sockets to house elements -4- with a certain degree of elasticity, to achieve a strong, firm attachment.

4. Elastic base plugs.
5. Screw holes for the attachment of each part -3- to the ends -6- of the legs of the bridge frame assembly.
6. Site of attachment of the parts -3-.
7. Frame, which allows the attachment at -6- of parts -3- at each end, and from the centre of which emerges the extension -8- within which is housed the tubular element -11-.

After insertion, it is fastened as may be most convenient and may even be fixed by gluing.

After insertion, fastening is carried out by means of the handle -10- which joins the lugs -9-.

8. Base of the legs of the bridge.
9. Lugs for attachment by the handle -10- of the bar that has been inserted in the support -8-.
10. Attachment handles of the bar or tubular element -11-, after insertion in the support -8-.
11. Bar which is placed in position according to the height required for the support as a whole.
12. Support which joins and attaches the horizontal bar -15- to the vertical bar -11-.

The combined mechanisms show in figure 3 are arranged on this support, in order to achieve the firm attachment of the support assembly on the edges of the bath.

13. Support which similarly attaches the horizontal bar -15- to the other vertical bar -11-.

The support assembly is formed thanks to the pair of supports -12- and -13- with their two legs -11-.

14. Handle to secure the position of the tubular elements -11- and -15- in their telescopic adjustment displacements.
15. Horizontal tubular element, which is the actual handle support for all the movements that the user of the bath wishes to make.
16. Security lock nut, after establishing the position of firm attachment.
17. Pressure handle whereby the displacement of the tubular element -15- is controlled with the desired degree of precision.
18. Screw bolt intregrated in the part -20- and the spindle -21-. The handle -17- is screwed on to this bolt. The handle is also secured by means of its own screw, with the nut -23-.
19. Part that serves to reinforce the support -12-, so that any turning movement is made freely.
20. Assembly body of the spindle -21-.

21. Spindle, which can turn when required by means of the handle -17-. This spindle is joined to the nut -22-. The revolving movement of the spindle determines the displacement of the nut and the resulting displacement of the tubular element -15-.
22. Nut integrated with the tube -15-.
23. Fastening nut for the handle -17-.
24. Threaded collar forming part of the handle -17-. The part -16- moves freely on this threaded collar and forms a stable lock nut.
25. Joint of the assembly of the SUCTION CUP. A small shank -27- joins the body -26- of the suction cup with the said joint.
26. Metal body of the suction cup, to one side of which is attached the elastic element -28- which, on being deformed by traction of the part -26- on the other side, determines the vacuum.
27. Integral lug of the part -26- which articulates at the point -25-.
28. Elastic disc which, through its central deformation, serves as a SUCTION CUP, the adherence being produced thanks to the lever -30-, and a displacement owing to its eccentricity.

The capacity of the suction cup is thus increased and its appropriate depression.

This phenomenon is already known and applied as suction cups in other cases. The novelty lies in its application to this case of securing and fastening in the support to which the invention refers.

29. Central appendage when a sole SUCTION CUP is used for the support -7-.
30. Handle with an eccentric end for moving the elastic element -28- that serves as a suction cup.

The turning of this lever determines the displacement of the central part of the plate -28- and the resulting vacuum.

Claims

1. SUPPORT FOR ATTACHMENT TO BATHS, of the type in the form of a bridge, characterized essentially by comprising a horizontal part (15) whose ends each fit telescopically into angular elements (12) and (13) from each of which emerge tubular elements (11) and after establishing the relevant positional measurements, fastening is carried out by means of the handles (14).

2. SUPPORT FOR ATTACHMENT TO BATHS, according to vindication number 1, characterized by the fact that each of the parts (11) rest on a part in the form of an inverted "T", so that in the central part (8) by means of the levers (10) they are fixed in position, and at the ends (6) of the wings of this "T" are attached curved elements (3) provided with elastic plugs (4) which are the parts that rest directly on the edges of the bath.

3. SUPPORT FOR ATTACHMENT TO BATHS, according to vindications 1 and 2, characterized by the fact that in the angular support (12) there is a spindle device (12) that may be manoeuvred by means of the handle (17) attached at the outer end, so that this spindle, connected to the nut (22) integrated in the element (15) produces displacements of the same, and locking may be secured by means of the nut (16), thus ensuring that the support assembly is firmly fastened on the edges of the bath.

4. SUPPORT FOR ATTACHMENT TO BATHS, according vindication number 2, characterized by the fact that the said frame (7) in the form of an inverted "T" is provided with a joint (25) at its attachment ends (3) to which are adapted one or more suction cups (28) which are applied to the inside surface of the bath, holding the whole device on the same.

5. SUPPORT FOR ATTACHMENT TO BATHS, characterized by the fact that the adapting suction cups referred to in vindication number 4 are arranged inside a resistant body, preferably of metal, which contains an elastic plate that actuates the suction cup and is provided with an eccentrically operated lever (28), which causes a vacuum in the corresponding suction cup, for attachment to the bath.

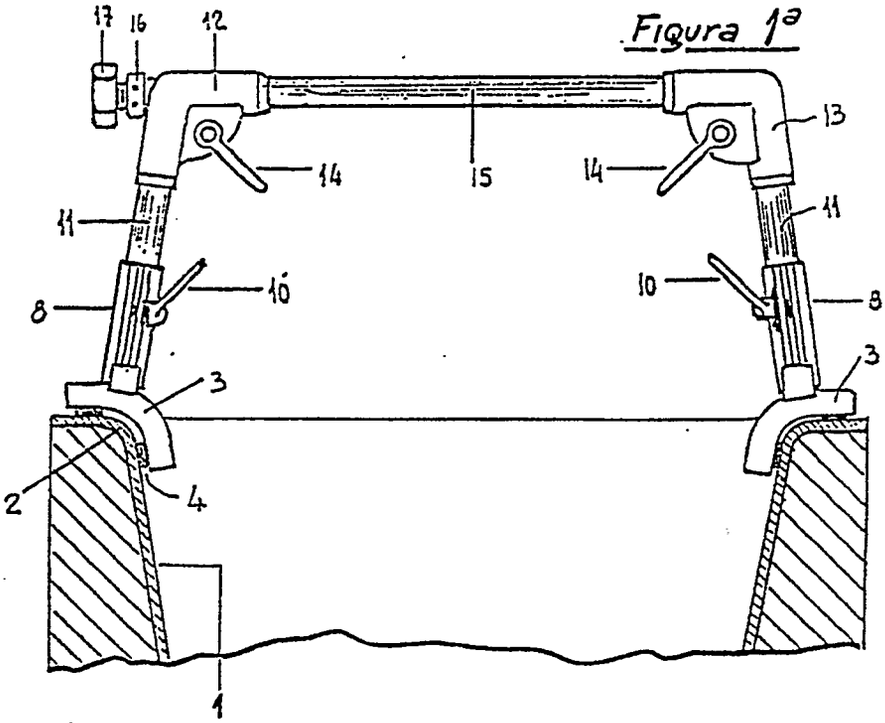

Figura 1ª

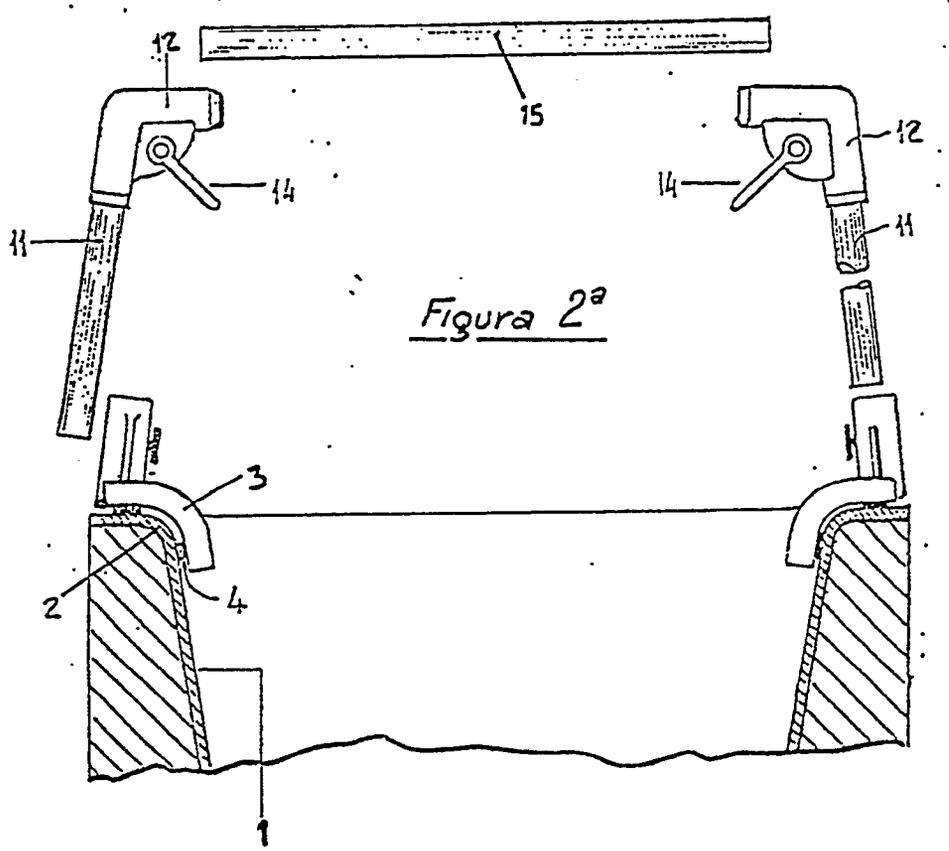

Figura 2ª

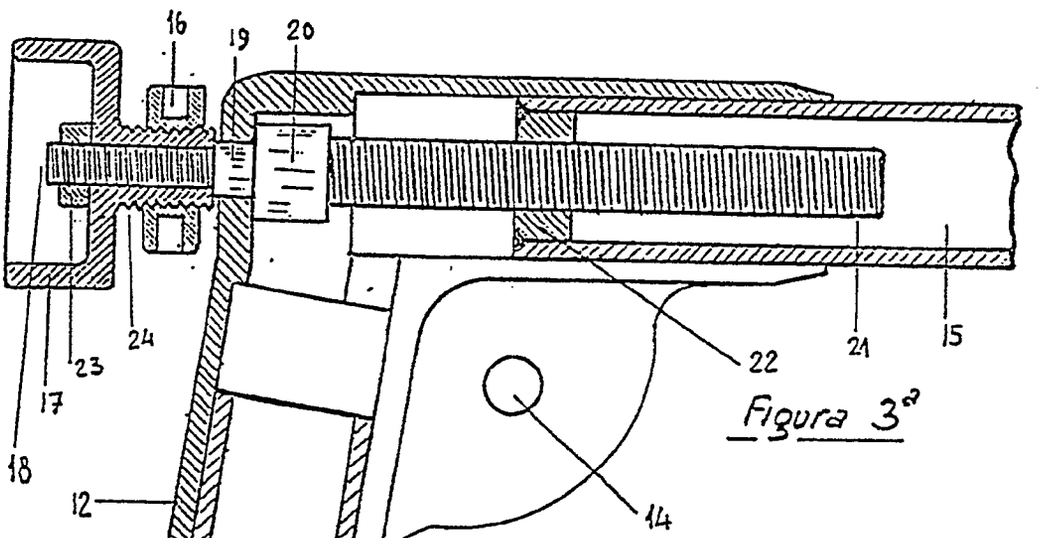

Figura 3ª

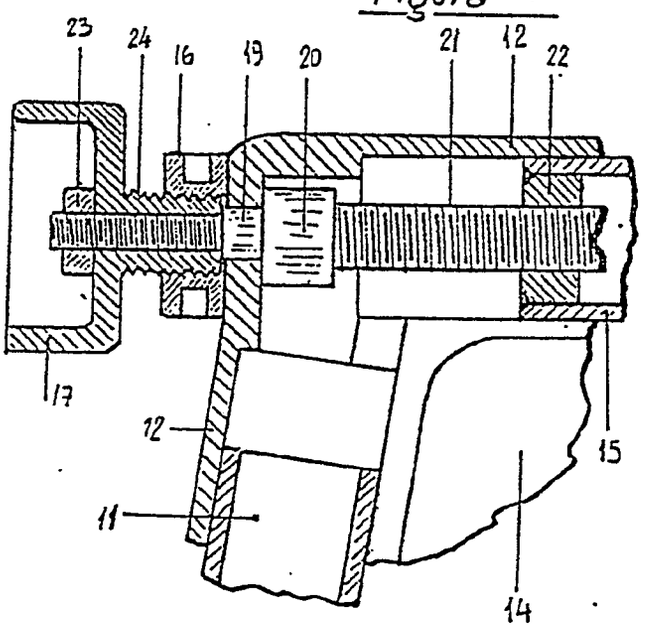

Figura 4ª

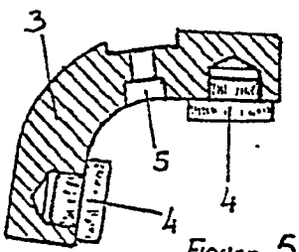

Figura 5ª

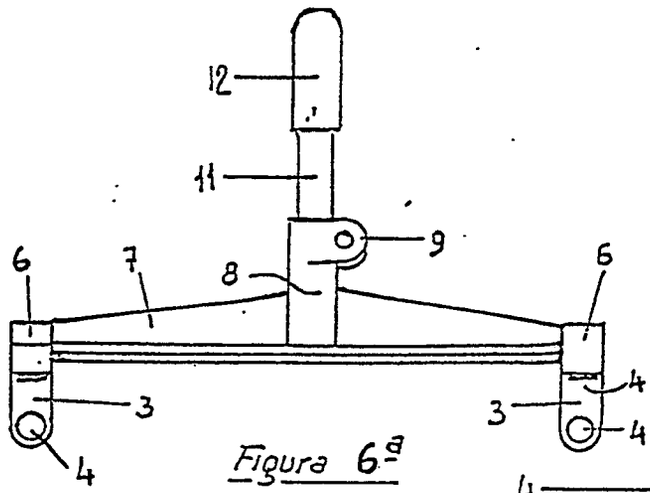

Figura 6ª

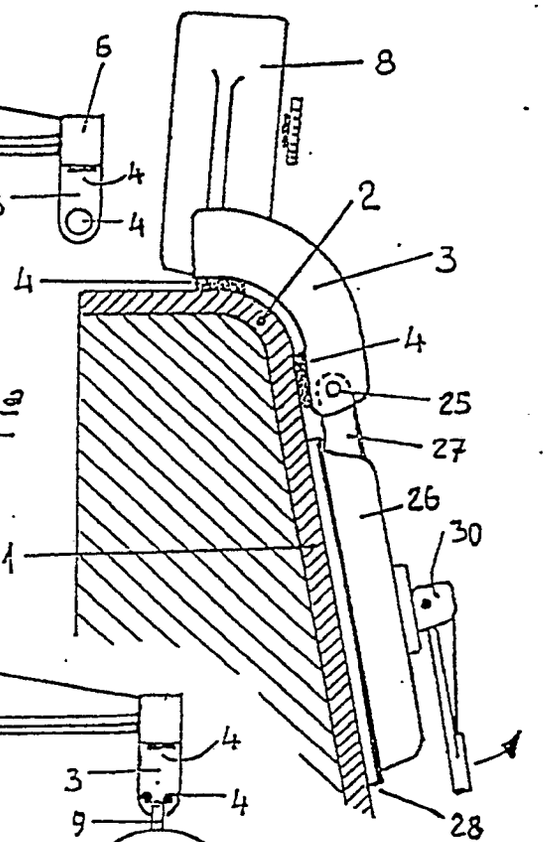

Figura 7ª

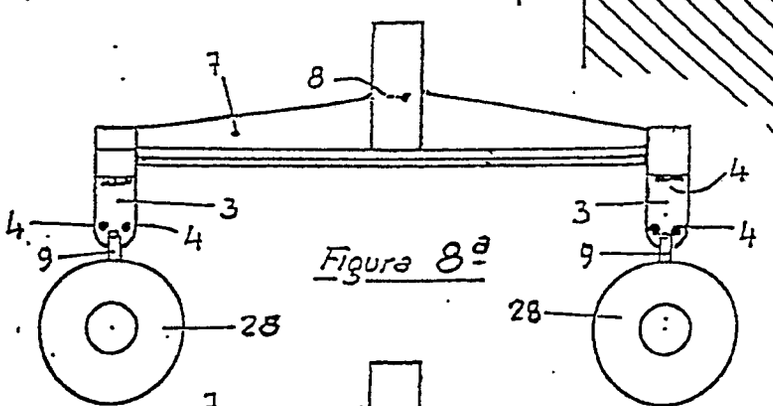

Figura 8ª

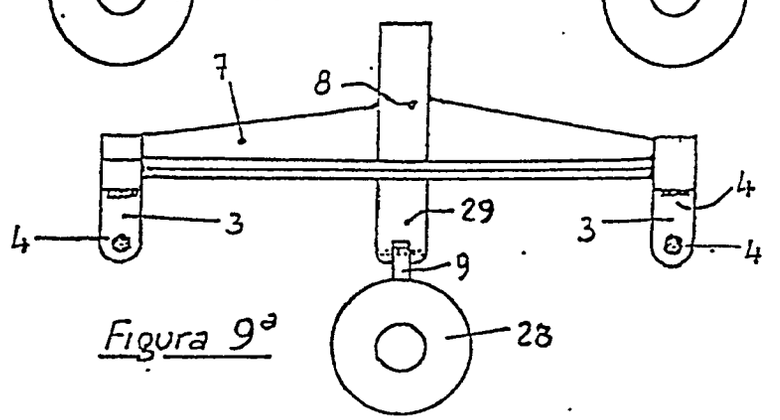

Figura 9ª

European Patent Office

EUROPEAN SEARCH REPORT

Application Number

EP 91 50 0029

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)
X Y A	US-A-1 376 247 (M.R.BISHOP) * page 1, line 31 - line 71; figures 1,2 * ---	1 2 3-5	A47K3/00
Y	US-A-3 414 910 (M.A.PROVI ET AL.) * column 2, line 55 - line 63; figures 1-5 * ---	2	
A	US-A-3 448 468 (C.E.MURCOTT) * column 1, line 67 - column 3, line 19; figures 1-3 * ---	3,4	
A	US-A-2 885 690 (E.R.SCOTT) * column 1, line 72 - column 2, line 50; figures 1-3 * ---	1,3	
A	DE-A-3 329 258 (KARJALAINEN,VAINO,RIIHIMAKI) * abstract; figures 1,2,8 * ---	1	
A	US-A-2 045 815 (R.WIESJAHN) * page 1, column 2, line 23 - page 2, column 1, line 66; figures 1-6 * ---	1-5	TECHNICAL FIELDS SEARCHED (Int. Cl.5)
A	FR-A-1 572 389 (A.PELLEGRINI) * page 2, line 40 - page 3, line 20; figures 1-6 * -----	5	A47K

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	21 JUNE 1991	RIGHETTI

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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A : technological background
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