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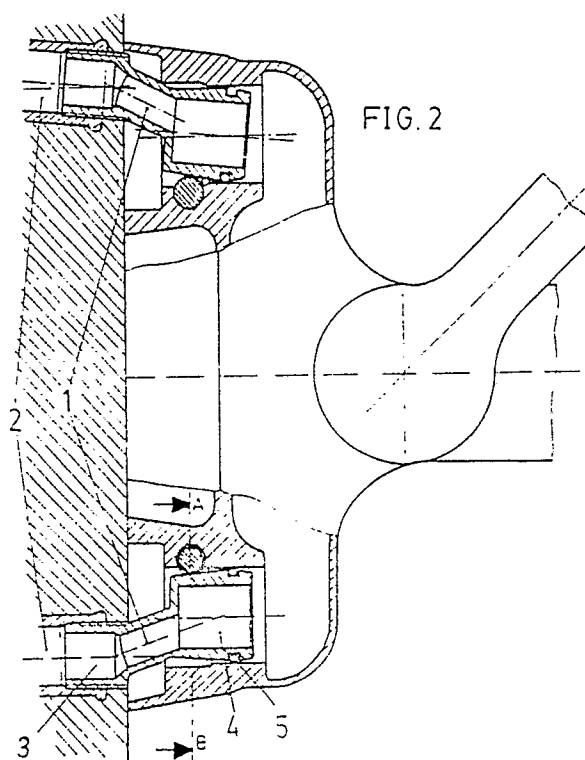
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54 Fixing arrangement of outer batteries or outer sanitary mixers.

57 A fixing arrangement of outer batteries or outer sanitary mixers is described, wherein instead of nipple nuts eccentric joints (1) are used, one conventional end (3) of which is threaded to the water connections (2) while the other end (4) has a double cone frustum.

The new fixing arrangement allows considerable reduction in demands for parallelism of the surface connections of cold and hot water, as well as of perpendicularity to the wall.



FIXING ARRANGEMENT OF OUTER BATTERIES OR OUTER SANITARY MIXERS

INTRODUCTION

One of the existing components in sanitary fittings is the outer mixer or outer battery, used chiefly for bath, shower and sink. As its name indicates this is a fitting component adapted to carry out mixing of the cold and hot water which it receives through respective supply conduits, afterwards pouring out the mixed water through a single pipe.

These supply conduits are coupled rigidly to the inlets of the water distribution network which, for such purpose, are disposed in the surface of the wall or of the sanitary.

Fixing of the battery is achieved by screw joining of the supply conduits to the connections using a nipple nut system. This means two demands or requirements:

The distance between cold and hot water inlets has to be exactly the same as between the supply inputs of the battery, with the purpose of being able to oppose and to thread them. This first problem is easily solved using eccentric joints which broaden the field of tolerance up to several centimetres.

A second problem has not been solved thus far: the parallelism between the inlets. In effect, such inlets have to be perpendicular to the surface of the wall (for fitting) and parallel to one another. All this within some very strict tolerances, so that non-compliance with any of these requirements can make installing the mixer very difficult or impossible.

The present patent application solves this problem, by making installation troublefree and considerably broadening the fields of tolerance mentioned.

DESCRIPTION OF THE INVENTION

The present application is based on eliminating the nipple nuts which fix the fitting's supply conduits to the inlets.

The fixing mechanism of the present application is represented in the attached drawings, which represents an illustrative, non-limitative, embodiment of the object of the invention wherein:

Figure 1 is an elevational view, partially in cross-section, of a fitting component which incorporates the invention;

Figure 2 is a plane view of figure 1; and

Figure 3 is a cross-section formed by the line A-B of figure 2.

The drawings represent the specific case of a mono-command mixer, but the manner of fixing is universal, valid for any type of outer mixer. Eccentrics (1) join the fitting to the inlets (2). The eccentrics have one conventional end (3) which is screwed to said inlets. The other end (4) is not threaded but is formed by two cone frustums joined by their larger circles, in whose join there is a slot which accommodates a toroidal gasket (5).

Furthermore, in the body of the fitting some bores (6) have been made perpendicular to the supply conduits and tangential to them. Such bores have a threaded zone (7) of less diameter allowing some screws (8) with conical shaft (9) to be accommodated.

In the drawing the case is presented of an installation with correct left inlet (how water), and at the right (cold water) non-perpendicular to the wall.

The operation of the model is such that, in the specific design of the attached drawing, it allows absorbing a disalignment of up to 5 degrees, that is, it covers a solid angle of 10 degrees, acting as follows:

The eccentric joints are screwed to the inlets seeking the distance between ends as correspond, according to the conventional manner. The fitting can now be placed at the eccentrics, absorbing the lack of perpendicularity due to the conical end of same. The fixing is carried out on screwing the conical shaft screws (8), since the double conicity (screw-eccentric) prevents their falling out pushing the fitted toward the wall. The pressure thereagainst increases depending on the tightening of the screws blocking the mixer which is left immobilised.

The sealing between eccentrics and body of the fitting is assured by the toroidal gaskets (5) which, due to the large diameter of the torus, fulfil their mission despite the twist.

The fixing screws (8) leave a visible opening in the body affecting its appearance. This can be solved by adding a post-arrangement floral or rose ornament which, surrounding the body, covers the openings.

If introduction of the screws is performed at the lower part of the body and with bores that are not through ones, the need for rose ornament disappears on the openings being naturally hidden. Nevertheless, this solution involves difficulty of assembly due to little room for manoeuvre, because the slotted screws which appear in the attached

drawings would be replaced by screws with inner hexagon, which would allow use of an Allen spanner meaning greater manoeuvring power.

Claims

1.- Fixing arrangement of outer batteries or outer sanitary mixers, based on foregoing the conventional nipple nuts, characterised in that instead of eccentric joints (1) are used with the special characteristic that they considerably diminish the demands for parallelism of the surface connections (2) of cold and hot water, as well as perpendicularity to the wall.

2.- Arrangement as claimed in Claim 1, characterised in that the eccentric joints (1) have one conventional end (3) which is screwed to the water inlets (2), while the other end (4) has along its axis a double cone frustum joined by the larger circles.

3.- Arrangement as claimed in Claim 2, characterised in that at the conical end (4) of the eccentrics (1) a slot has been made which allows accommodating a toroidal joint (5) with large torus diameter.

4.- Arrangement as claimed in Claims 1 to 3, characterised in that the supply conduits of the body of the fitting are non-threaded cylindrical openings which allow introducing the eccentric joints (1) without need for coalignment of the axes due to their double conicity (4), absorbing a field of tolerance corresponding to the one comprised by a specific solid angle.

5.- Arrangement as claimed in Claims 1 to 4, characterised in that in the fitting body some bores (6) have been made with a threaded zone (7) of less diameter, perpendicular to the axis of the supply conduits and tangential to them.

6.- Arrangement as claimed in Claims 1 to 5, characterised in that in the bores (6) some screws (8) with conical shaft (9) are screwed in which, due to their conicity and depending on the tightening, imprison the end (4) of the eccentric joints (1), preventing their falling out.

7.- Arrangement as claimed in Claims 1 to 6, characterised in that the sealing between the fitting body and the eccentrics (1) is achieved by the toroidal gaskets (5) which these accommodate and which, due to the large diameter of the torus, assure sealing within the field of tolerances of disalignment of axes.

8.- Arrangement as claimed in Claims 1 to 7, characterised in that the immobilisation of the mixer is achieved on screwing the conical shaft screws (8) since, on the conical screw sections (9) meeting up with the eccentric ones (4), they prevent their falling out pushing the fitting toward the wall whose contact pressure immobilises the mixer.

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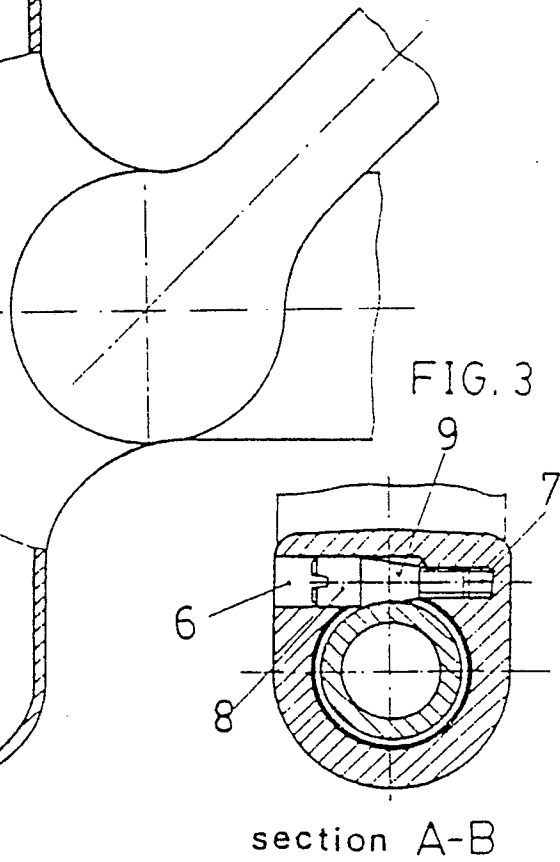
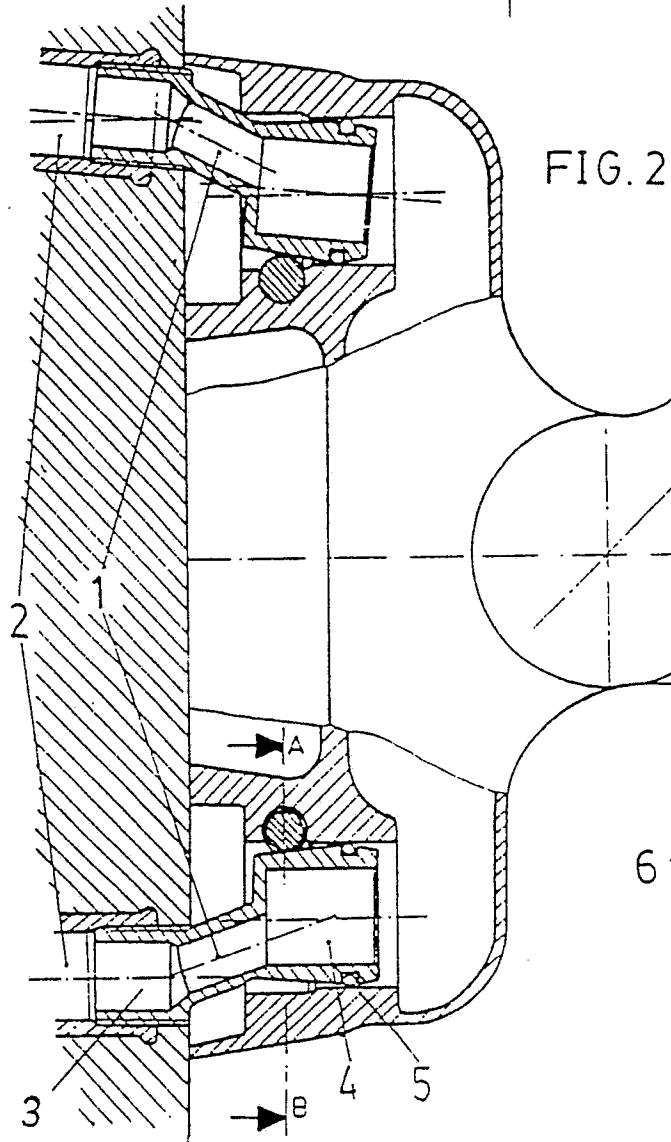
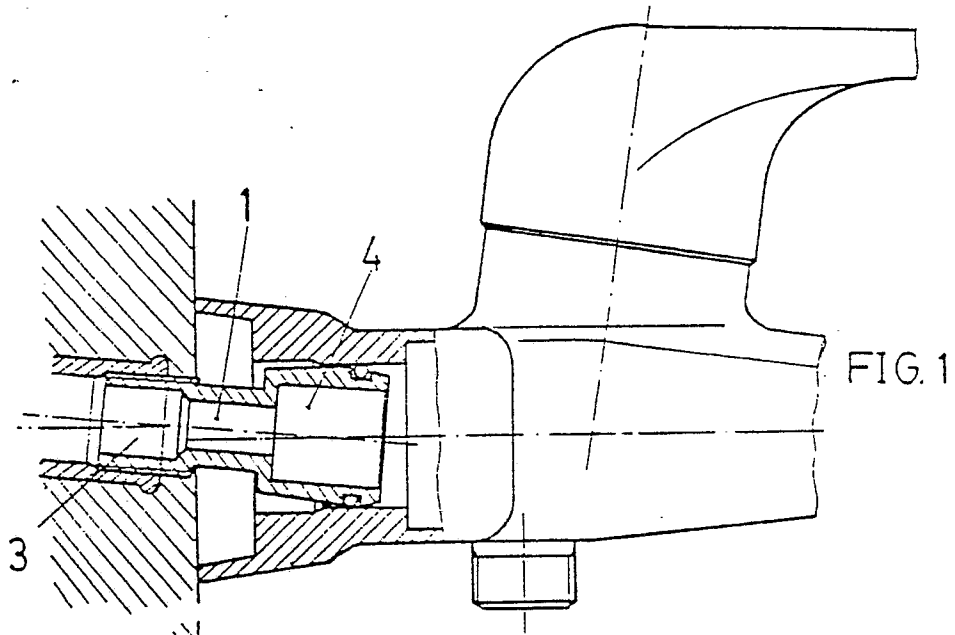
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European Patent
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EUROPEAN SEARCH REPORT

Application Number

EP 87 50 0078

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.4)
X	DE-A-3 428 288 (ZWINK) * Whole document *	1,2,3,4 ,7	E 03 C 1/042
Y		5,6,8	
Y	FR-A-2 015 681 (GROHE) * Page 2, lines 23-37; page 3, lines 1-5; figure 4 *	5,6,8	
A	DE-A-3 041 712 (MAYER)		
			TECHNICAL FIELDS SEARCHED (Int. Cl.4)
			E 03 C
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 25-10-1988	Examiner HANNAART J.P.
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			