(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 0 798 412 A2

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
01.10.1997 Bulletin 1997/40

(51) Int Cl.[6]: **D06F 37/26**

(21) Application number: **97500051.4**

(22) Date of filing: **19.03.1997**

(84) Designated Contracting States:
DE FR GB IT

(30) Priority: **21.03.1996 ES 9600690**

(71) Applicant: **Balay S.A.**
50059 Zaragoza (ES)

(72) Inventor: **Boved, Ismael Gracia**
50059 Zaragoza (ES)

(54) **Anchorage device of the washing machine counterweight**

(57) Anchorage device for washing machines counterweights that is applied for the anchorage of the pressed concrete body that is fixed to the closed base of the tank, so that the device has a whole of pairs of pieces (2) and (9) that are united between them, being one of them joint to the tank (13) and being the other joint to the concrete block(4), so that the piece (1), that is joint to the concrete counterweight (4), has a general cylindrical tubular shape, with diminishing internal diameter from its external base to the internal part having, in relationship to the external base (5), a body (6) of anchorage that is fixed by some flanges (7) that can be easily broken.

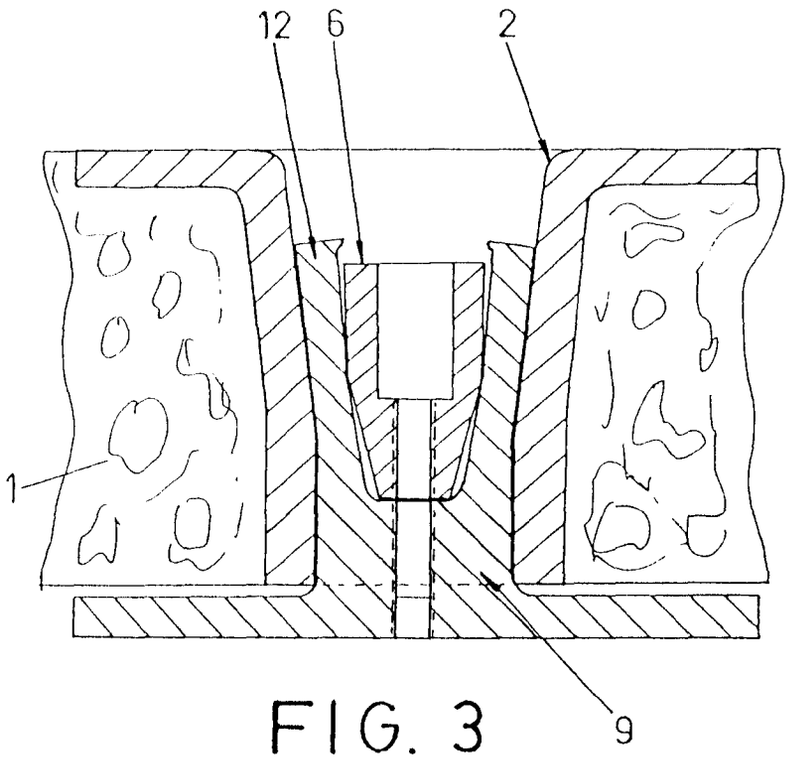

FIG. 3

EP 0 798 412 A2

Description

OBJECT OF THE INVENTION.

As is expressed in the title of the present descriptive report, the following invention consists of an anchorage device for washing machines counterweights, being of the kind of those in which the counterweight is made up of a pressed concrete block, with a general shape like a circular and semirectangular crown that is endowed of a whole of orifices in relationship to its bases, for allowing its fixing to the front part of the tank that remains in relationship to the door of access for the clothes.

The anchorage device is based on the combination of a whole of pairs of pieces, so that one of them is integrated into the concrete block and the other is integrated into the tank, so that the piece which is integrated into the concrete block, of general tubular shape, has an internal body that will be inserted into the body that is joint to the tank so that the fixing is materialized because this piece is made up of a hollow cylindrical body that has a whole of independent branches at ts extreme. The body of union will be inserted among these independent branches.

In the other hand, the pieces that are integrated in the concrete block have a little pad in their external upper base for avoiding the break of the blocks when they are piled up.

An economical saving emerges through the use of the anchorage device for the front counterweight of the washing machines tanks, because the fixing is done because of a simple blow of press which causes the anchorage of the bodies that we want to join. We have not to use any screws for materializing this anchorage, with the consequent saving of labour and material.

FIELD OF APLICATION.

Like it has been expressed, the present anchorage device is applied in the anchorage of the front counterweight of the washing machines tanks, so that the cited counterweight is made up of a pressed concrete block like a circular crown and rectangular section, that is endowed of some orifices for its fixing, through the corresponding screws, to the front base of the washing machine tank that remains in relationship to its door.

BACKGROUND OF THE INVENTION.

The conventional front counterweights of the washing machine tanks are formed by a pressed concrete body like a semirectangular and circular crown that is endowed of a whole of passing orifices between its bases for allowing the pass of the corresponding screws of fixing.

In this way, the concrete blocks often get broken because of their fragility. Besides, their orifices do not stay perfectly clean.

Thus, the fixing is done through threaded screws so that both the cost of the screws and the time that is necessary for this operation put up the cost of these counterweights.

DESCRIPTION OF THE INVENTION.

An anchorage device for the front counterweight of the washing machines tanks is described in the present report, so that it is joint to the front base of the washing machine tank and it is made up of a pressed concrete block which is formed by a pair of pieces, that are joint between them, being one of them joint to the tank. This piece can be obtained during the process of manufacture of the plastic tank from a mold, while the second piece is joint to the pressed concrete block which acts as a counterweight.

The pieces that are joint to the concrete block are integrated into it, having a cilyndrical tubular shape with a diminishing internal diameter from its external base to the internal part, so that in relationship to its external side, it has a body of anchorage that is fixed by a whole of flanges that can be broken.Thus, when the internal body of anchorage pressed on the piece that is integrated into the block of concrete, the flanges of union will be broken and it will materialize the anchorage with the joint piece of the tank.

The body of anchorage that is joint to the piece that is integrated into the concrete body through a whole of flanges, is defined by an external cylindrical tubular stretch and a second stretch with a conical shape that is endowed of an axial central threaded orifice so that its conical extreme make easy its anchorage to the joint piece of the tank.

The cited joint piece of the tank has a cylindrical hollow general shape so that its surface is made up of a whole of axial branches that are upperly independent and that are joint by their lower part, defining all the perimeter so that this configuration allows the opening of the cited branches.

Thus, the fixing of the two pieces is done when the internal body becomes free of the piece that is integrated into the block of concrete because of the breaking of the flanges of union among the branches that are opened over the internal surface of the piece that is included into the concrete block.

By the other side, for assuring the fixing from the elements of anchorage of the internal body to the piece that is integrated into the concrete block, this internal body has, in relationship to its conical stretch, a central axial threaded orifice which coincides with a central threaded orifice of the piece that is joint to the tank.

In order to complement the description which is made hereinafter and for the purpose of providing a better understanding of its characteristics, the present descriptive report is accompanied by a set of drawings, in whose figures the most significant details of the invention are represented.

BRIEF DESCRIPTION OF THE DESIGNS.

Figure 1.-It shows a sectional view, according to a diametrical longitudinal plan, of the piece that is integrated into the concrete block that acts as a counterweight, so that we can observe the internal body which is defined by a first stretch with a tubular cylindrical shape and a second conical stretch which is more internal and is endowed of an axial central threaded orifice.

Figure 2.-It shows a sectional view, according to a longitudinal plan, of the piece that is joint to the tank or integrated into it. This piece has a tubular shape in its lower part with a threaded orifice, and some upper independent branches that grant to it a general tubular grooved shape.

Figure 3.-It shows a sectional view, according to a diametral longitudinal plan, of the pairs of pieces of anchorage in their placement of work, so that we can observe how the internal body, which is into the piece that is integrated into the concrete block, has been separated and inserted among the branches of the piece that is joint to the tank, opening their branches for their pressing over the internal surface of the tubular piece that is integrated into the concrete block, materializing the fixing.

DESCRIPTION OF A PREFERRED EMBODIMENT.

In view of the above cited figure and according to the used numbering, we can observe how the piece (2) of general tubular cylindrical shape is integrated into the pressed concrete block (1). This piece (2) is endowed of a projection (3) that is like a right angle with regard to its external base so that over this base there is a pad (4) that let put the concrete blocks (1) into a pile without any break. The upper internal surface (5) of the cited piece (2) converges to the internal base, finishing with a straight stretch.

The pressed concrete block (1) has a annular general shape and it is fixed to the front base of the tank so that it acts as a counterweight.

In the internal part of the cited piece (2) there is a second body (6) that is joint to it through several flanges (7) that can be easily broken if a pressure is done over it, so that the cited body (6) is defined by a tubular stretch and a conical stretch which is endowed of a threaded axial central orifice (8).

By the other side, there is a piece (9), with hollow cylindrical general shape, which makes up the tank of the washing machine. In relationship to one of its bases, this piece has a projection (10) -like a right angle- which is formed by a tubular stretch that is closed with a theaded axial central orifice (11), and by an external stretch that is defined by a whole of branches (12) that are separated among them.

In this way, the assembly of the concrete block (1) over the front base of the washing machine tank will be materialized placing the pieces (9) in relationship to the internal surface of the tubular piece (2), staying the internal body (6) in relationship to the central part of the branches (12) so that when the cited body (6) is pressed, the breaking of the flanges (7) is carried out, separating and inserting them among the branches (12) of the piece (9), causing their divergence over the internal surface of the piece (2), getting reach a perfect anchorage like it is observed in the figure 3.

Likewise, for assuring the fixing of the elements of anchorage, the body (6) can be endowed of an threaded axial orifice (8) so that it remains in relationship to an orifice (11) of the piece (9) wich also is threaded for materializing their fixing through a threaded screw.

Thus, the assembly of the pressed concrete blocks (1) is done in a safe, economical and fast way. These blocks will act as a counterweight of the washing machine tank. Besides, the pad (4) of the external surface of the pieces (2) let avoid some breaking of the blocks when they are transported. Conventionally, these breakings often happen because of the fragility of the concrete.

Claims

1. ANCHORAGE DEVICE FOR WASHING MACHINES COUNTERWEIGHTS, being applicable for the anchorage of the pressed concrete body that is fixed to the closed base of the tank and characterized because the device has a whole of pairs of pieces (2) and (9) that are linked between them, being one of them joint to the tank and being the other joint to the concrete block (1).

2. ANCHORAGE DEVICE FOR WASHING MACHINES COUNTERWEIGHTS, according to the first claim and characterized because the piece that is joint to the counterweight has a general cylindrical tubular shape with a diminishing internal diameter from its external base to the internal part. In relationship to the external base, this device has a body (6) of anchorage which is fixed through a whole of flanges (7) that can be broken.

3. ANCHORAGE DEVICE FOR WASHING MACHINES COUNTERWEIGHTS, according to the first and second claims and characterized because the body (6) of anchorage that is joint to the tank is defined by a cylindrical tubulat external stretch and a second stretch which has a conical shape, being endowed of an axial threaded central orifice (8).

4. ANCHORAGE DEVICE FOR WASHING MACHINES COUNTERWEIGHTS, according to the first claim and characterized because the piece (9) which is joint to the tank has a hollow cylindrical general shape, being formed by a whole of independent branches that are joint to the main body

through their lower part while almost all their lateral side remains opened.

5. ANCHORAGE DEVICE FOR WASHING MACHINES COUNTERWEIGHTS, according to the previous claims and characterized because the fixing of the pieces (2) and (9) is done when the body (6) is moved away from the piece (2) for inserting it among the branches (12) of the body (9) that are joint to the tank so that they are opened over the internal surface of the tubular piece (2).

6. ANCHORAGE DEVICE FOR WASHING MACHINES COUNTERWEIGHTS, according to the previous claims and characterized because the body (9) has an axial threaded orifice (11) in its base that coincides with the orifice (8) of the body (6) so that it is allowed the fixing between both bodies through a threaded screw.

7. ANCHORAGE DEVICE FOR WASHING MACHINES COUNTERWEIGHTS, according to the first claim and characterized because the piece (2), in relationship to the external surface of its projection (3) -like a right angle-, has a pad (4) for avoiding the breaking of the blocks (1) when they are piled up.

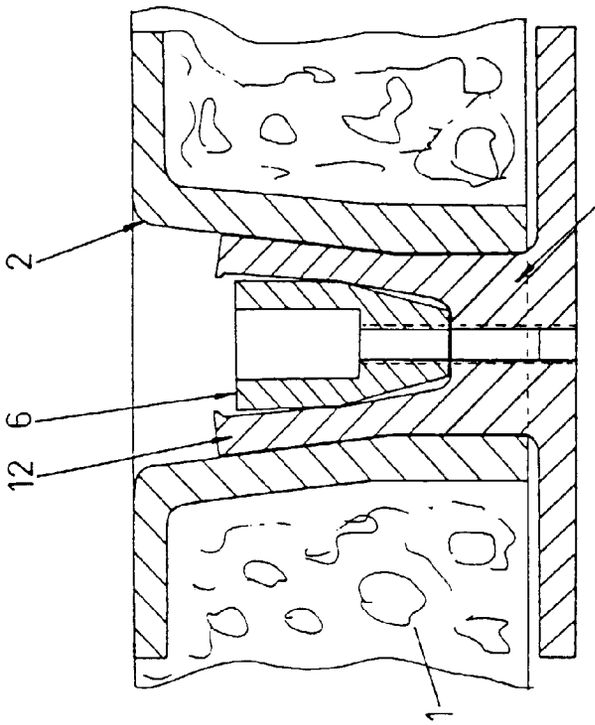

FIG. 3

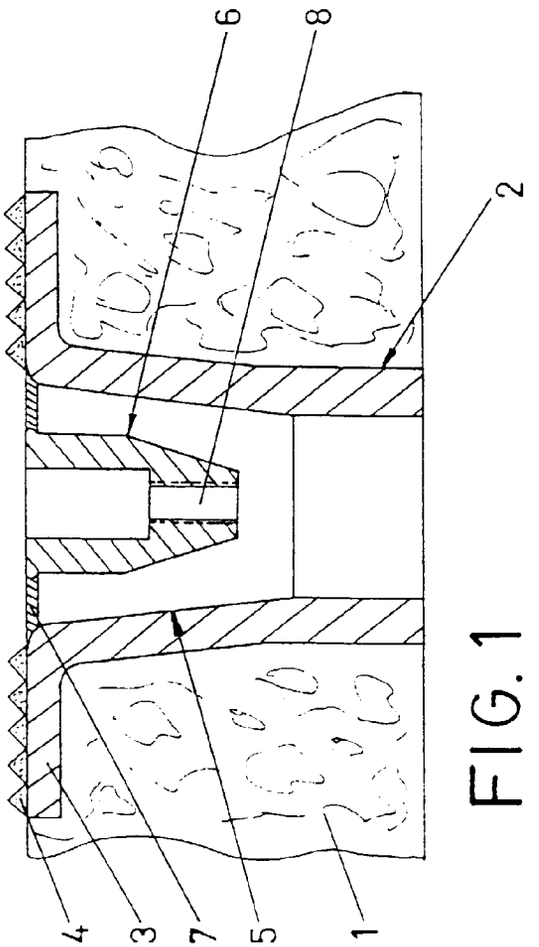

FIG. 1

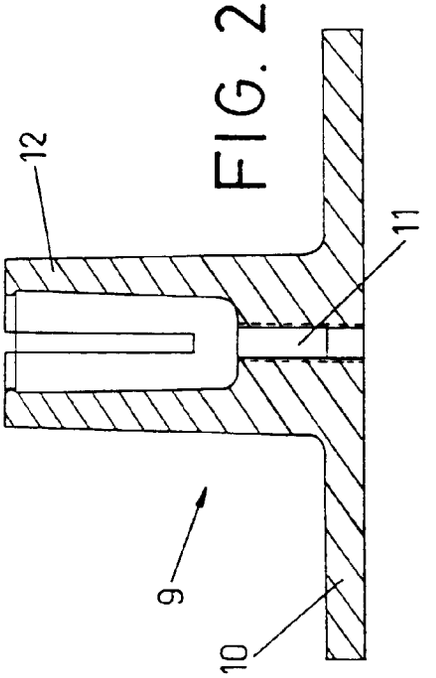

FIG. 2