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(54) **Subjection system for washing machine counterweights**

(57) Subjection system for washing machines counterweights, being the counterweight made up of a pressed concrete block of rectangular section and that is placed on the upper part of the tank, having the system of means of anchorage from the counterweight (1) to the tank (3) and the jointly means of fixing of both bodies (1) and (3), so that the means of anchorage from the counterweight (1) to the tank (3) can be defined by a pair of projections (5) like dovetail which are joint to the body of the tank, being divided in two halves that coincide with the respective decreases (4) -which have the same section- of the counterweight (1).

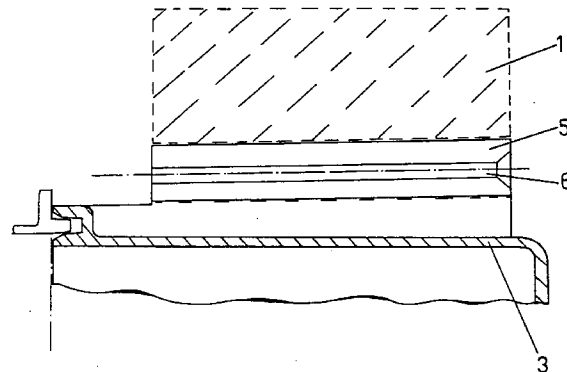


FIG. 4

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Description

OBJECT OF THE INVENTION.

As is expressed in the title of the present descriptive report, the following invention consist of a subjection system for washing machines counterweights, being of the kind of those where the counterweight is made up of a rectangular section block that is endowed of a concavity in relationship to the side of union to the tank for adapting it to its outline, so that the said counterweight is in relationship to the upper part of the tank of the washing machine.

Through the subjection system from the upper counterweight to the tank of the washing machine, it is allowed its performance in a simple and fast way, reducing both the material cost of the elements and the duration of the operation, so that there is an important economic saving.

For that, in the own manufacture of the plastic tank body some projections will be materialized. These projections will be crossed by the block of concrete, through its corresponding decreases of similar section, so that the projections of the washing machine are defined by two longitudinal halves. Between them, there is a cavity where the corresponding rod, which open both halves, is screwed.

Likewise, the element of anchorage can be made up of a cylindrical body that is endowed of an axial central orifice -in a part of its height-, being the rest of its height defined by some branches which are lengthwise separated among them, so that it will stay inserted into the corresponding orifice of the concrete block. In this way, the anchorage will be materialized when a screw, which will open the independent branches, will be threaded.

FIELD OF APLICATION.

The subjection system described on the present report can be applied in the anchorage of the upper counterweight of the washing machines tanks, so that the cited counterweight remains placed on the upper part of the tank, in its placement into the washing machine.

Thus, the counterweight made up of a pressed concrete block is fixed to the body of the tank which has the upper counterweight and the front counterweight.

BACKGROUND OF THE INVENTION.

Conventionally, for the anchorage of the upper counterweight, in the washing machines plastic tanks the elements of union are defined during the own process of manufacture. These elements of tie are made up of pairs of curved projections that are confronted and shape a guide, while a pair of orifices are defined, in relationship to the side of union to the tank, in the pressed concrete block that acts like counterweight.

In this way, the corresponding screws, with their head in relationship to the side of union from the counterweight to the tank, are placed into the orifices of the counterweight during the assembly of itself.

Thus, the screws are placed over the guides that are defined in the body of the tank, so that their head stay in the cavity that is shaped by the pair of curved confronted projections, so that the fixing will be realized with a flat ring, a elastic ring and the corresponding nut.

With this structure, its cost is high because of the material cost of the elements of anchorage (the screw, the flat ring, the elastic ring and the nut) and the time of anchorage.

DESCRIPTION OF THE INVENTION.

In the present report, a subjection system for the upper counterweights of the washing machines tanks is described. This system is of the kind of those that are made up of a pressed concrete block that is placed over the upper part of the tank in its placement into the washing machine and it is made up of the means of anchorage from the counterweight to the tank and the joint means of fixing between both bodies.

The means of anchorage from the counterweight to the tank are defined by a pair of projections that are joint to the tank, of section like dovetail or equivalent form, and that are longitudinally divided in two halves which coincide with the respective decreases of the counterweight with the same section like dovetail or equivalent form.

For realizing the fixing between the counterweight and the tank, the projections, whose section is like dovetail and that are separated in two longitudinal halves, have a central longitudinal decrease that is crossed by a rod which causes the divergence of both halves, pressing over the counterweight and realizing a joint fixing, impeding any displacement of the counterweight.

Likewise, the anchorage system from the counterweight to the tank can be defined by a pair of projections that are joint to the tank, with a general tubular shape, in a pair of parallel axial wings so that the said body is formed by a perimeterly closed stretch with the threaded axial central orifice, and by an external stretch with some axial grooves that define some independent branches, which are inserted into some respective orifices of similar section of the counterweight, which stay closed by one of their bases.

The cited closed base of the orifices of the counterweight where the bodies that are united to the tank, has an threaded orifice that coincides with the threaded orifice of the body that is united to the tank, realizing the fixing through a threaded screw which separates the independent branches when it acts over them, running up against the body of the counterweight and realizing a perfect fixing, impeding the displacement of the counterweight in any direction.

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 plan view of the counterweight in relationship to its side of union to the tank, which is endowed in its central part of a concave and curved decrease for its better adaptation to the outline of the tank, being also endowed of a pair of decreases of section like dovetail.

Figure 2.-It shows the elevation of the counterweight that let us observe both the concave and curved central part of the side of union to the tank, and the two decreases of section like dovetail that realize the anchorage to the tank.

Figure 3.-It shows a sectional view of the counterweight according to the section I-I of the previous figure.

Figure 4.-It shows an axial sectional view of the tank, where we can observe its projection that has the counterweight intruded into it so that the cavity that is defined between both halves is crossed by the rod, causing their divergence and their pressure over the counterweight.

Figure 5.-It shows the front elevation of the projection of section like dovetail that is centrally and longitudinally divided in two halves so that between these two halves there is a cavity for the insertion of a rod.

Figure 6.-It shows a view in perspective of a variant of realization in which the joint projection of the tank, that is of tubular shape with a pair of parallel axial wings, is intruded into the corresponding decrease of the counterweight so that one of the bases of the counterweight is closed, being endowed of a threaded orifice which coincides with an orifice of the projection that is joint to the tank.

Figure 7.-It shows a sectional view of the way of insertion from the counterweight to the corresponding projection of the tank, so that we can observe how the threaded orifices of the closed base of the decrease of the counterweight and the ones of the projection of anchorage stay in line.

DESCRIPTION OF A PREFERRED EMBODIMENT.

In view of the above cited figures and in accordance with the used numbering, we can observe how the subsection system for the upper counterweights of the washing machines tanks is formed by the counterweight (1) an its element of anchorage that is joint to the tank, so that the central part (2) of the side of union from the cited counterweight (1) to the tank (3) is curved and concave, like the outline of the tank. This counterweight (1) also has a pair of decreases (4) of section like dovetail.

Thus, the element of anchorage, that is joint to the

tank (3), is defined by a pair of projections (5), of section like dovetail, which are central and longitudinally divided in two halves endowed of a decrease (6) between their confronted sides which define a circular cavity, so that when a rod is intruded into it, it is separated, diverging against the counterweight and materializing the joint fixing.

In this way when the counterweight is displaced, it is placed so that the pair of projections (5) are inserted into its decreases (4), so that when the corresponding rod is introduced into the cavity (6), the divergence of the two halves happens pressing over the internal sides of the decreases (4). Thus, any movement of the counterweight (1) is avoided, being the said fixing very simple and economical.

Logically, from this basic structure, other similar embodiments emerge. They are based on the creation of some decreases in the counterweight so that in its assembly is did sliding over the corresponding projections of the tank so that they are of similar section and greater width in its external part for avoiding the vertical liberation of the counterweight.

Thus, in a similar embodiment, the pair of projections that are joint to the tank (3) are made up of a tubular cylindrical body (7) which is endowed of a pair of parallel axial aletas. Through them, the body is joint to the tank (3), being they coinciding with the respective decreases (9) of similar section of the counterweight (1).

In this embodiment, one of the bases (10) of the decreases (9) is closed and endowed of an orifice (11), while the body (7) has a section that is perimetrically closed, being endowed of a threaded central axial orifice (12), and also has an external section that has some axial grooves (13) that define some independent branches (14).

In this way, in the assembly of the counterweight (1), the closed base (10) of its decreases (9) is in relationship to the base of the body (7) that is perimetrically closed, being also its central axial orifice (12) in relationship to the orifice (11) of the cited base of the body (7) that is perimetrically closed.

With this structure, when a screw is threaded into the coincident orifices (11) and (12), the joint union of both bodies (1) and (7) is produced at the same time, causing the divergence of the independent branches (14), pressing over the body of the counterweight and over its open base, avoiding any displacement of the counterweight.

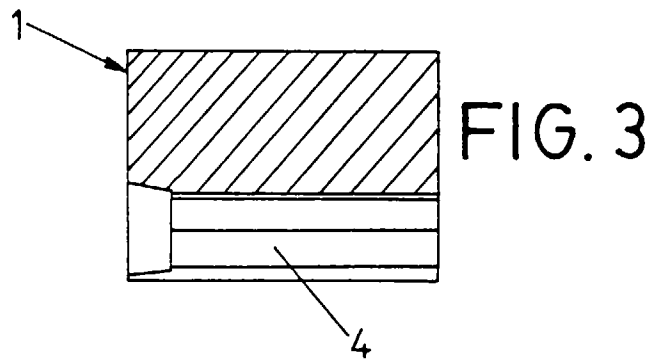
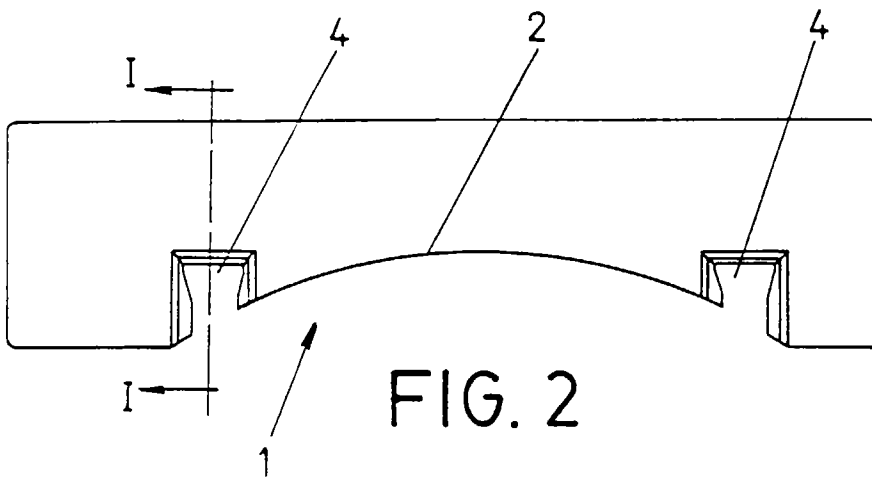
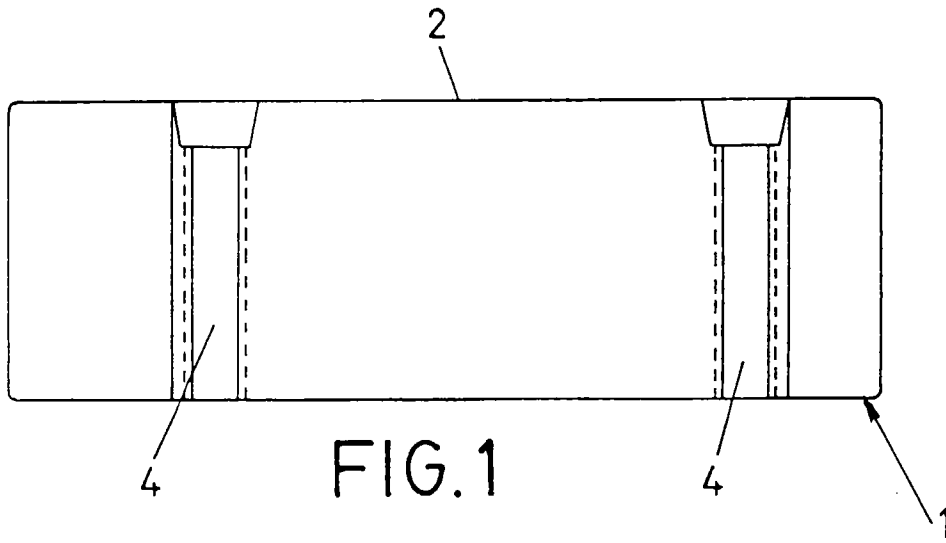
Definitively, we obtain a system of anchorage of total reliability that also is economic and simple because how the conventional elements of anchorage (screw, flat ring, elastic ring and nut) are eliminated, there is a saving both in the material of the elements of anchorage and in the process of assembly because how it is faster, a smaller quantity of labour is necessary.

Claims

1. SUBJECTION SYSTEM FOR WASHING MACHINES COUNTERWEIGHTS, being the counterweight of the kind of those that are made up of a pressed concrete block of rectangular section, that is placed in the upper part of the washing machine tank. The system is characterized because has means of anchorage from the counterweight (1) to the tank (3), and the means of joint fixing of both bodies (1) and (3). 5
2. SUBJECTION SYSTEM FOR WASHING MACHINES COUNTERWEIGHTS according to the first claim, characterized because the means of anchorage from the counterweight (1) to the tank (3) are defined by a pair of projections (5) of section like dovetail that are joint to the body of the tank and longitudinally divided in two halves which coincide with the respective decreases (4), of the same section, of the counterweight (1). 10 15 20
3. SUBJECTION SYSTEM FOR WASHING MACHINES COUNTERWEIGHTS according to the first and second claims, characterized because the joint fixing from the counterweight (1) to the tank (3) is materialized by a rod or screw that crosses through the central decrease (6) to both halves of the projections (5), of section like dovetail, that causes their divergence and the pressure on the body of the counterweight. 25 30
4. SUBJECTION SYSTEM FOR WASHING MACHINES COUNTERWEIGHTS according to the first claim, characterized because the means of anchorage from the counterweight (1) to the tank (3) are defined by a pair of projections (7) of general tubular shape that are joint to the tank with a pair of axial parallel wings (8), and made up of a perimetrically closed stretch with an axial central threaded orifice (12), and an external stretch with some axial grooves (13) that define some independent branches (14) which are inserted in the respective decreases (9) of similar section of the counterweight (1), staying the cited decreases closed by one of their bases (10). 35 40 45
5. SUBJECTION SYSTEM FOR WASHING MACHINES COUNTERWEIGHTS according to the first and fourth claims, characterized because the closed base (10) of the decrease (9) of the counterweight (1) where the body (9) that is joint to the tank is inserted, has an orifice (11) which coincides with the threaded orifice (12) of the body (9) that is joint to the tank. 50 55
6. SUBJECTION SYSTEM FOR WASHING MACHINES COUNTERWEIGHTS according to the first, fourth and fifth claims, characterized because

the joint fixing from the counterweight (1) to the tank is joint through a threaded screw into the orifices (11) and (13), causing the divergence of the independent branches (14), for pressing on the body of the counterweight (1).

7. SUBJECTION SYSTEM FOR WASHING MACHINES COUNTERWEIGHTS according to the first claims because the pair of projections and the corresponding cavities where those projections are inserted, can be made in different ways but always having similar sections, whose fitting must be inevitably done through a lateral sliding, being impossible its front liberation.



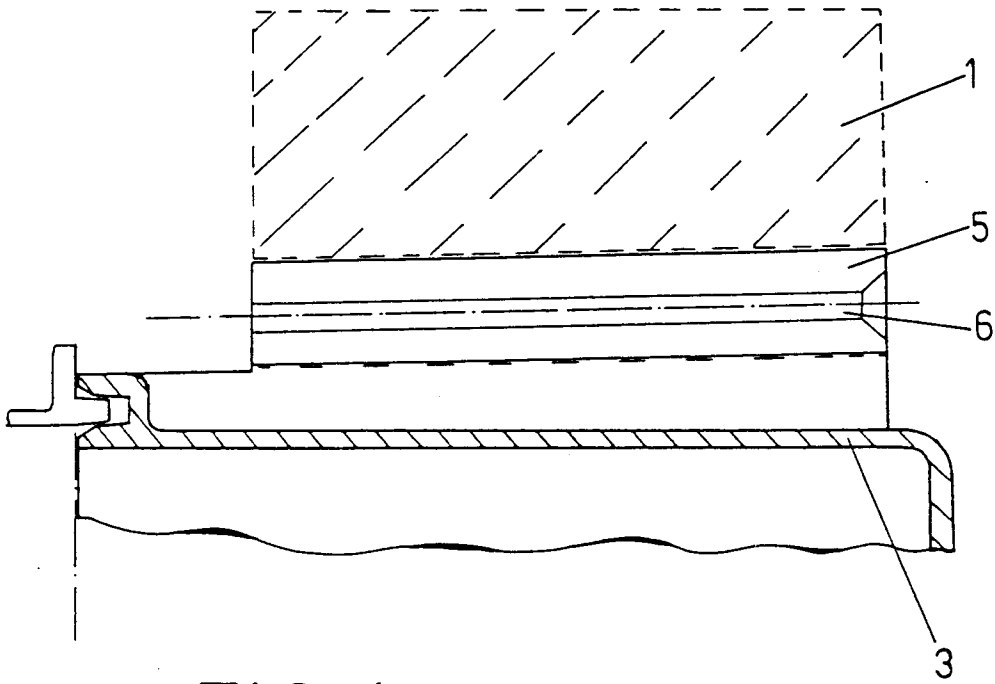


FIG. 4

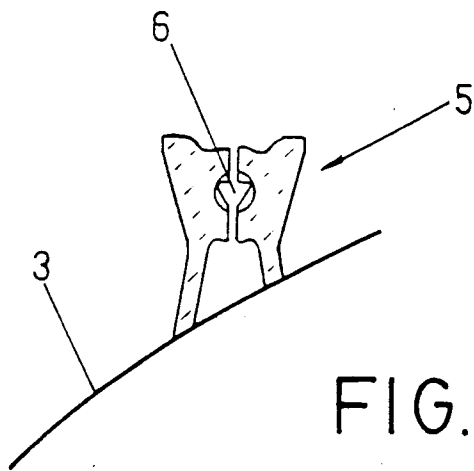


FIG. 5

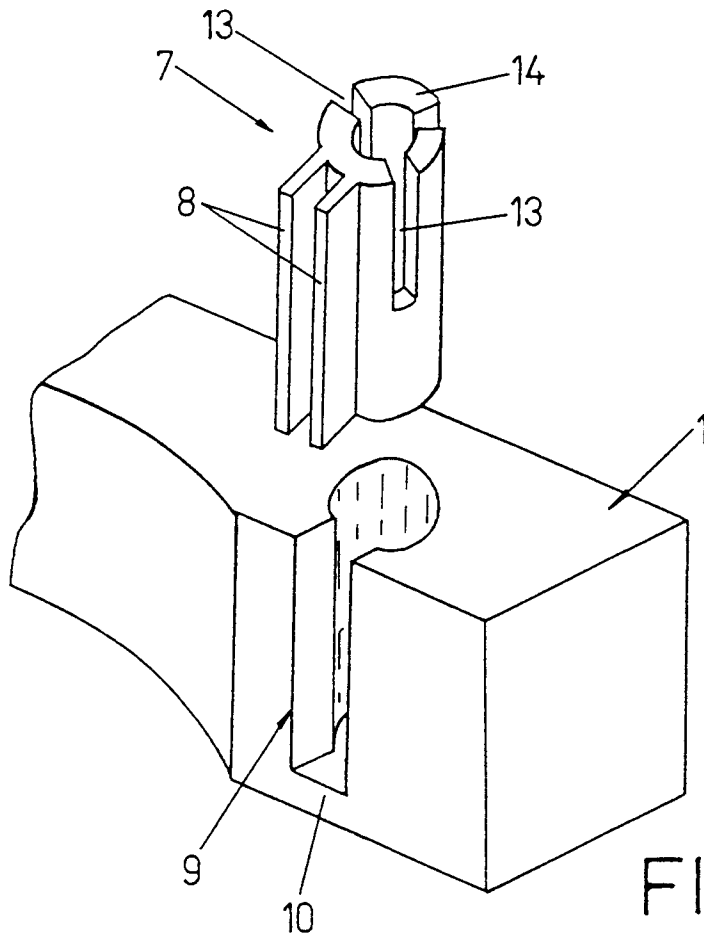


FIG. 6

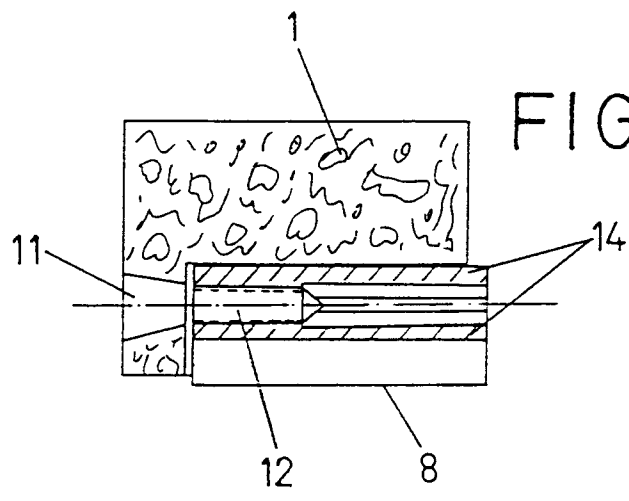


FIG. 7