

(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

EP 0 821 094 A1

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:
28.01.1998 Bulletin 1998/05

(51) Int. Cl.⁶: **D06F 37/26**, D06F 37/28

(21) Application number: **97202246.1**

(22) Date of filing: **17.07.1997**

(84) Designated Contracting States:
**AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC
NL PT SE**
Designated Extension States:
AL LT LV RO SI

(30) Priority: **22.07.1996 IT MI960527 U**

(71) Applicant: **PHILCO ITALIA S.P.A.**
24030 Brembate Di Sopra (Bergamo) (IT)

(72) Inventors:
• **Tornari, Giuseppe**
24100 Bergamo (IT)
• **Parolini, Fiorenzo**
20040 Bellusco (Milano) (IT)
• **Rebolini, Ernesto**
24036 Ponte San Pietro (Bergamo) (IT)

(74) Representative: **Mittler, Enrico**
c/o Mittler & C. s.r.l.,
Viale Lombardia, 20
20131 Milano (IT)

(54) Tank for washing machine with topside loading

(57) An Inox stainless steel washing tank for washing machine with topside loading has an opening for the laundry to be washed to which is fixed a mouth (6) in plastic material. Said mouth (6) in plastic material is fixed to the rims of said opening by a film of glue (11) interposed between the tank (1) and the plastic mouth

(6), said glue being able to guarantee an integral mechanical coupling of the plastic mouth to the tank and, at the same time, to guarantee the tight sealing of the water contained in the tank.

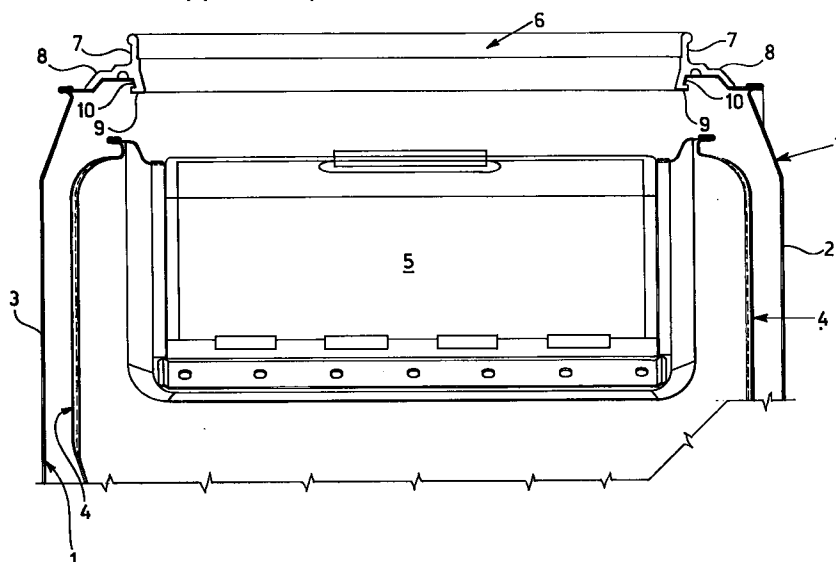


Fig.1

EP 0 821 094 A1

Description

The present invention deals with a tank for washing machine with topside loading.

Washing machines with topside loading are traditionally characterized by an opening on the topside of the tank to permit the loading of the laundry in the basket, which in turn is provided with a respective flap door.

In some of the known washing machines, such opening is closed off by a flap door having the function of keeping the water inside during the washing cycle.

In other known washing machines, the opening at the top of the tank is attached to the upper plane of the washing machine housing by means of a rubber coupling, on which then a tight-joint sealing off is exerted by the upper door of the washing machine that seals off the tank.

Moreover, in some known washing machines the tank is made of plastic material by injection molding, while in others the tank is made of Inox steel.

In the washing machines with plastic tank, the attachment of the rubber coupling above mentioned or, as an alternative, the application of the flap door is carried out directly on the tank.

In washing machines with Inox steel tank, the attachment of the rubber coupling is achieved directly starting from the sheet of Inox steel that constitutes the tank, or on a mouth in plastic material that is fixed to the tank by screws and the sealing off of the water is reached interposing a rubber gasket between the tank and said mouth in plastic material. Also in the solution that foresees, instead, the application of the flap door to the tank it is indispensable to apply to the tank, in the above cited description employing screws and rubber gasket, a mouth in plastic material.

It appears that, in washing machines with an Inox steel tank, whatever may be the method of closing off the tank, it is presently necessary to foresee for the tank, by means of screws and rubber packing, the application of a mouth in plastic material.

This system of fixing the plastic mouth to the tank proves to be laborious and does not guarantee the sealing off of the water in time.

In view of the state of the art described, the object of the present invention is to provide an Inox steel tank for washing machines with topside loading which solves the aforementioned problem.

In accordance with the present invention, such an object is achieved by an Inox steel washing tank for washing machines with topside loading, said tank having an opening for the laundry to be washed, to which opening is fastened a mouth in plastic material, characterized in that said mouth in plastic material is fastened to the rims of said opening by a film of glue interposed between the tank and the mouth in plastic material, said glue being able to guarantee an integral mechanical coupling of the plastic mouth to the tank and, at the same time, to guarantee the sealing off of the water

contained in the tank.

Thanks to the present invention, the fastening of the plastic mouth to the Inox steel tank proves to be simplified, and guarantees in time the water sealing.

The features of the present invention will appear evident from the following detailed description of an embodiment thereof, illustrated by way of non-limiting example in the attached drawings, in which:

Figure 1 is a partial section view of a tank for washing machine with topside loading according to the invention; and

Figure 2 is an enlarged view of a detail of Figure 1.

With reference to Figure 1, there is shown in partial view and in section view according to a vertical plane a tank 1 for a washing machine with topside loading according to the present invention. Tank 1 is made of Inox stainless steel and has the known cylindrical conformation, with two side flanges 2 and 3.

Inside of tank 1 there is rotatively lodged a basket 4 for containing the laundry to be washed provided with a flap door 5 for its internal access.

Tank 1 is provided, on the upper part of its lateral cylindrical surface, with an opening to allow the loading of the laundry. Said opening is made by cutting the Inox steel sheet that constitutes the lateral cylindrical surface of the tank, and by subsequent drawing of the rims of said opening.

At the rims of the opening of tank 1 is applied a mouth 6 in plastic material provided with a collar 7 that protrudes upward, with a perimetrical flange 8 that rests on the outer surface of tank 1 in correspondence with the rims of said opening and with a perimetrical tooth 9 for hooking up with a turned edge 10 of the rims of the opening in tank 1 (Fig. 2).

In accordance with the invention, and as is visible in Figure 2, the fastening of the mouth 6 to tank 1 is obtained by a film 11 of a glue, preferably a mastic, interposed between the lower surface of the perimetrical flange 8 of mouth 6 and the outside surface of tank 1. Said mastic must be able to guarantee, aside from the integrated mechanical coupling of mouth 6 with tank 1, also the sealing off of the water present in the tank, that obviously must not leak out of the same.

It is to be noted that the two lateral flanges 2 and 3 are permanently seamed to the rims of the cylinder constituting tank 1; this operation is carried out after having inserted basket 4 into the tank.

This methodology permits the building of the oscillating group constituted by tank 1 and by basket 4 in a completely automated way and guarantees a better centering with respect to the traditional methodology, that foresees instead the assemblage of the oscillating group by screwing down the lateral flanges to the tank cylinder, or by a tank tightening ring with a rubber gasket for the sealing off of the water.

Claims

1. Inox stainless steel washing tank for washing machine with topside loading, said tank having an opening for loading the laundry to be washed, to which opening of which is fixed a mouth (6) in plastic material, characterized in that the said mouth (6) in plastic material is fixed to the rims of said opening by a film of glue (11) interposed between the tank (1) and the plastic mouth (6), said glue being able to guarantee a integral mechanical coupling of the plastic mouth to the tank and, at the same time, to guarantee the sealing off of the water contained in the tank.

15

20

25

30

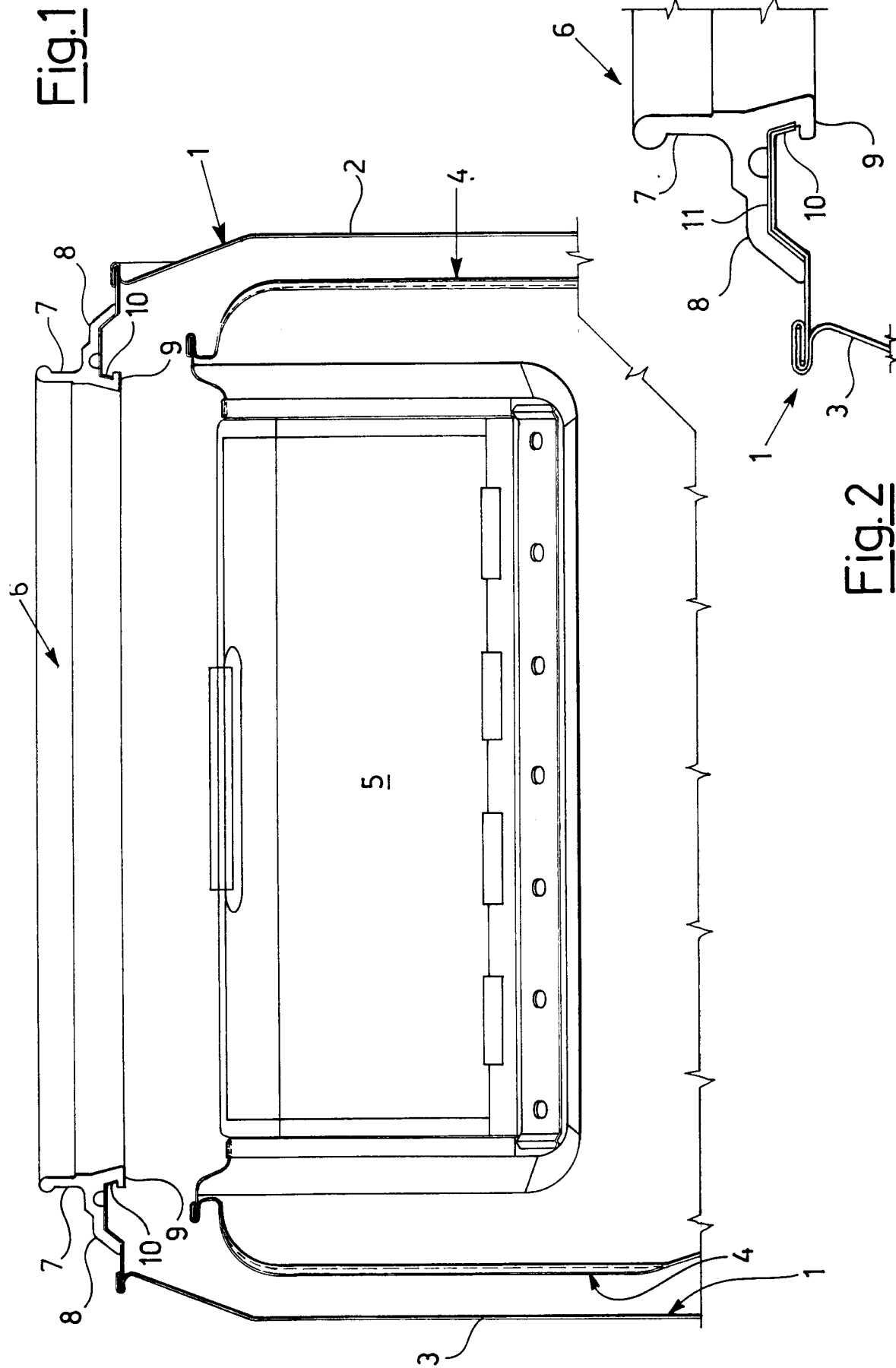
35

40

45

50

55





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 97 20 2246

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.6)
A	FR 2 218 421 A (SEDELEM) * page 3, line 25 - line 35; figures * ---	1	D06F37/26 D06F37/28
A	FR 2 572 156 A (ZANUSSI ELETTRODOMESTICI S.P.A.) * page 2, line 27 - line 34; figure 1 * ---	1	
A	GB 2 294 698 A (ELECTROLUX ZANUSSI ELETTRODOMESTICI S.P.A.) * abstract; figure 1 * -----	1	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			D06F
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 28 November 1997	Examiner Courrier, G
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			

EPO FORM 1503 03/82 (P04C01)