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(12) # EUROPEAN PATENT SPECIFICATION

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(54) **Laundry washing machine.**

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Description

The invention relates to a laundry washing machine equipped with a conventional laundering tub mounted in the housing of the machine in a novel manner.

Conventional laundry washing machines for domestic use are equipped with a metal laundering tub provided with suitable ballast weights and adapted to contain a rotatable drum. The tub is mounted in the housing of the machine by upper suspension springs and lower vibration dampeners adapted to engage suitable metal brackets secured to the outer periphery of the tub and to the interior of the housing, respectively. (See for example GB—A—1 155 774).

The conventional laundering tub is additionally provided with further brackets or lugs secured to its outer periphery for mounting a motor assembly required for rotating the drum, and a pressure-sensing outlet for the connection thereto of a pressure switch.

Although a laundering tub of this construction is highly efficient and reliable in operation, there is the disadvantage that it has to assume the function of the carrying structure for the above described elements, by reason of which it has to be made with a considerable wall thickness for enabling it to sustain the relatively high mechanical stresses during the laundering and spindrying operations.

Consequently these laundering tubs require a considerable amount of material for their manufacture.

In addition, the various lugs, brackets and the like have to be prepared separately and to be subsequently secured to the tub in a time-consuming and cumbersome operation, resulting in a complicated structure.

It is an object of the invention to overcome the above described deficiencies by providing a laundry washing machine provided with novel means for mounting the laundering tub within the housing of the machine, thus permitting the wall thickness of the tub to be reduced, and the application of the described brackets, lugs and the like to the outer periphery of the tub to be avoided.

These and other objects are attained according to the invention by a laundry washing machine comprising a laundering tub adapted to contain a drum mounted therein for rotation by means of at least one electric motor of conventional type supported by associated lugs, said tub being mounted in the housing of the machine by means of suspension elements from above and vibration dampener elements of conventional type from below, said elements being adapted to be engaged with associated brackets, said machine being additionally provided with a pressure-sensing dome for the connection thereto of a pressure switch of conventional type, and being characterized by comprising at least one circular hoop of a plastic material adapted to be removably secured to the outer periphery of the tub in intimate engagement therewith, said hoop being integrally provided with said lugs, said brackets and said pressure-sensing dome, and being additionally formed with two backwards folded end portions adapted to be connected to one another by resilient means.

The characteristics and advantages of the invention will become more clearly evident from the following description, given by way of example with reference to the accompanying drawings, wherein:

Fig. 1 shows a partially sectioned diagrammatic rear view of a laundry washing machine as a preferred embodiment of the invention, and

Fig. 2 shows a diagrammatical side view of a structural particular of the machine of Fig. 1.

With reference to the drawings, there is diagrammatically shown a domestic laundry washing machine 3 of the front-loading type, provided with a metal laundering tub 4 adapted to contain a rotatable drum 5 and mounted within the housing 7 of the machine by means of upper suspension springs 8 and lower vibration dampeners 9 or similar elements of conventional type.

In particular, the mounting of tub 4 is accomplished by means of a circular hoop 10 made of a plastic material and being of a small width than said tub, said hoop 10 being adapted to be removably secured to tub 4 in intimate engagement with the outer periphery thereof.

Hoop 10 is formed with two backwards bent end portions 11 and 12 adapted to be connected to one another by at least one tension spring 13 or the like for clamping hoop 10 in position on tub 4.

Integrally formed with hoop 10 are two pairs of brackets 14 and 15, two parallel lugs 16 and 17, and at least one pressure-sensing dome 18 for the connection thereto of a conventional pressure switch (not shown).

The pair of brackets 14 is adapted to be engaged by respective ends of suspension springs 8, the other ends of which are engaged with respective metal brackets 19 secured to upper portions of housing 7 of the machine.

The pair of brackets 15 on its part is adapted to have respective ends of vibration dampeners 9 hinged thereto, the other ends of vibration dampeners 9 being hinged to respective bearing brackets 20 secured to lower portions of housing 7.

Lugs 16 and 17 finally serve for supporting a conventional electric motor 21 required for rotating drum 5 by means of a belt transmission 22 in a per se known manner.

Thanks to the provision of hoop 10 functioning as the carrying structure for the tub and drum assembly and for motor 21 and including pressure-sensing dome 18, it is thus possible to make the tub itself with a reduced wall thickness, resulting in a saving of material for its manufacture.

The hoop, on the other hand, is a separately formed unit adapted to be applied to the tub by an automatized process by means of a robot or a similar machine.

Thanks to the fact, finally, that the hoop is provided with the brackets, lugs and the like, these elements do not have to be secured to the tub, resulting in a greatly simplified construction thereof.

Claims

1. A laundry washing machine comprising a laundering tub adapted to contain a drum mounted therein for rotation by means of at least one electric motor of conventional type supported by associated lugs, said tub being mounted in the housing of the machine by means of suspension elements above and by means of vibration dampener elements of conventional type from below, said elements being adapted to be engaged with associated brackets, said machine being additionally provided with a pressure-sensing dome for the connection thereto of a pressure switch of conventioal type, and being characterized by comprising at least one circular hoop (10) of a plastic material adapted to be removably secured to the outer periphery of said tub (4) in intimate engagement therewith, said hoop (10) being integrally provided with said lugs (16, 17), said brackets (14, 15) and said pressure-sensing dome (18), and being additionally formed with two backwards folded end portions (11, 12) adapted to be connected to one another by resilient means (3).

2. A laundry washing machine according to claim 1, characterized in that said resilient means comprises at least one tension spring (13).

Patentansprüche

1. Waschmaschine mit einem Waschbottich, der dazu eingerichtet ist, eine Trommel aufzunehmen, die darin zur Drehung durch wenigstens einen Elektromotor gelagert ist, der von zugehörigen Fahnen getragen ist, wobei der Bottich in dem Gehäuse der Maschine mittels Aufhängungselementen oben und mittels Schwingungsdämpferelementen bekannter Art von unten montiert ist, welche Elemente dazu eingerichtet sind, mit zugehörigen Konsolen der Maschine Verbunden zu werden, wobei die Maschine außerdem mit einem Drucksensordom für den Anschluß eines Druckschalters bekannter Art daran versehen ist und dadurch gekennzeichnet ist, daß sie wenigstens einen kreisförmigen Reifen (10) aus Plastikmaterial enthält, der dazu eingerichtet ist, am äußeren Umfang des Bottichs (4) in innigem Eingriff damit lösbar befestigt zu werden, welcher Reifen (10) integral mit den genannten Fahnen (16, 17), Konsolen (14, 15) und dem Drucksensordom (18) versehen ist und außerdem mit zwei nach hinten gebogenen Endabschnitten (11, 12) versehen ist, die dazu eingerichtet sind, miteinander durch elastische Einrichtungen (13) verbunden zu werden.

2. Waschmaschine nach Anspruch 1, dadurch gekennzeichnet, daß die elastischen Einrichtungen wenigstens eine Zugfeder (13) enthalten.

Revendications

1. Machine à laver le linge comprenant une cuve de lavage adaptée pour contenir un tambour monté à l'intérieur de manière à être entraîné en rotation par au moins un moteur électrique de type conventionnel supporté par des pattes associées, cette cuve étant montée dans le carter de la machine au moyen d'éléments de suspension disposés en haut et au moyen d'amortisseurs de vibrations de type conventionnel disposés en bas, ces éléments étant adaptés pour coopérer avec des ferrures associées, cette machine étant en outre équipée d'un dôme sensible à la pression destiné à être raccordé à un interrupteur à pression de type conventionnel, caractérisée en ce qu'elle comporte au moins un collier circulaire (10) en matière plastique, adapté pour être fixé de façon amovible sur la périphérie extérieure de la cuve (4) en contact intime avec celle-ci, ce collier (10) comportant d'un seul tenant les pattes (16, 17), les ferrures (14, 15) et le dôme sensible à la pression (18), et comportant en outre deux portions terminales repliées vers l'arrière (11, 12) adaptées pour être reliées l'une à l'autre par des moyens élastiques (13).

2. Machine à laver le linge selon la revendication 1, caractérisée en ce que ces moyens élastiques comprennent au moins un ressort de traction (13).

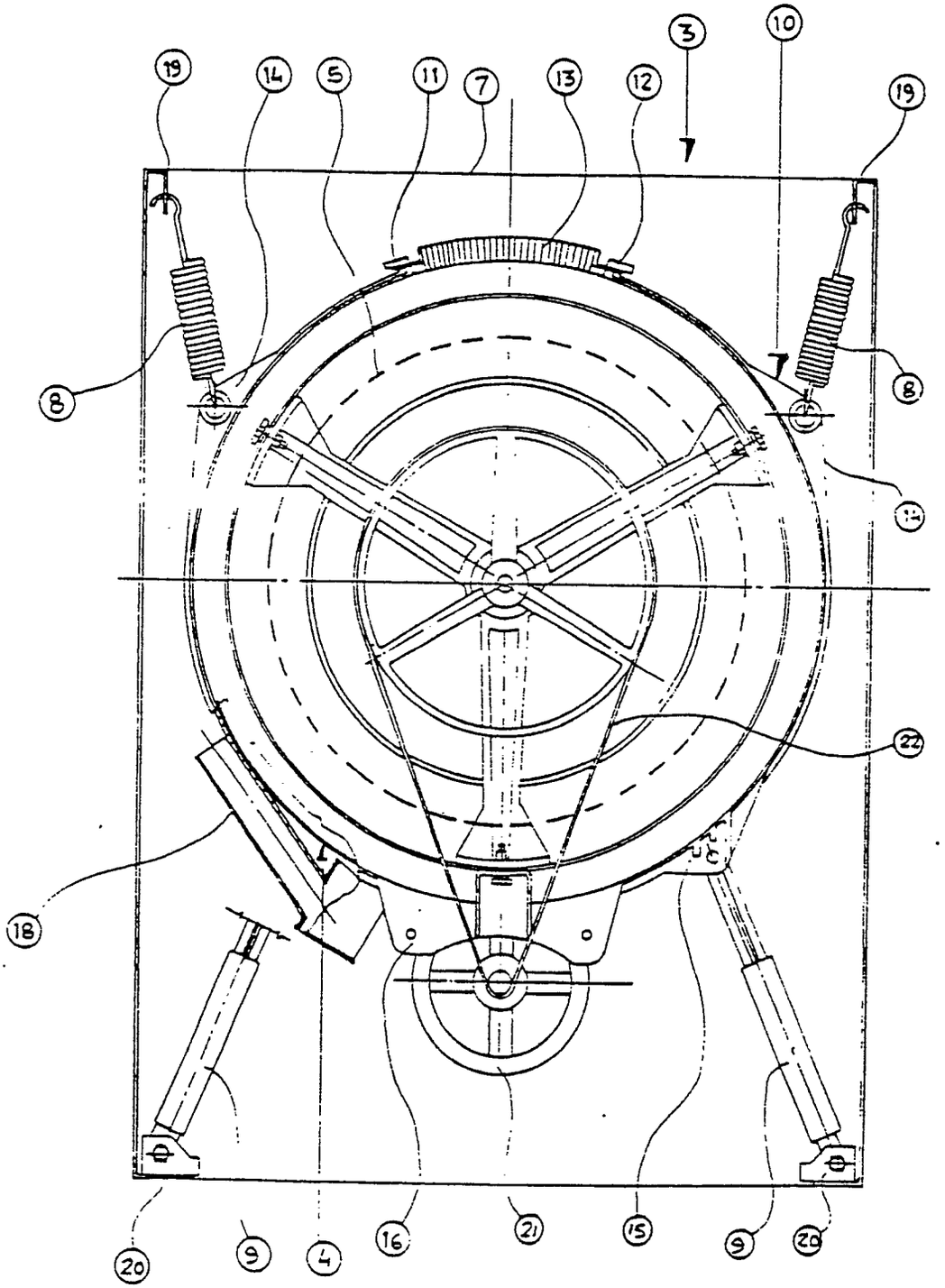

FIG. 1

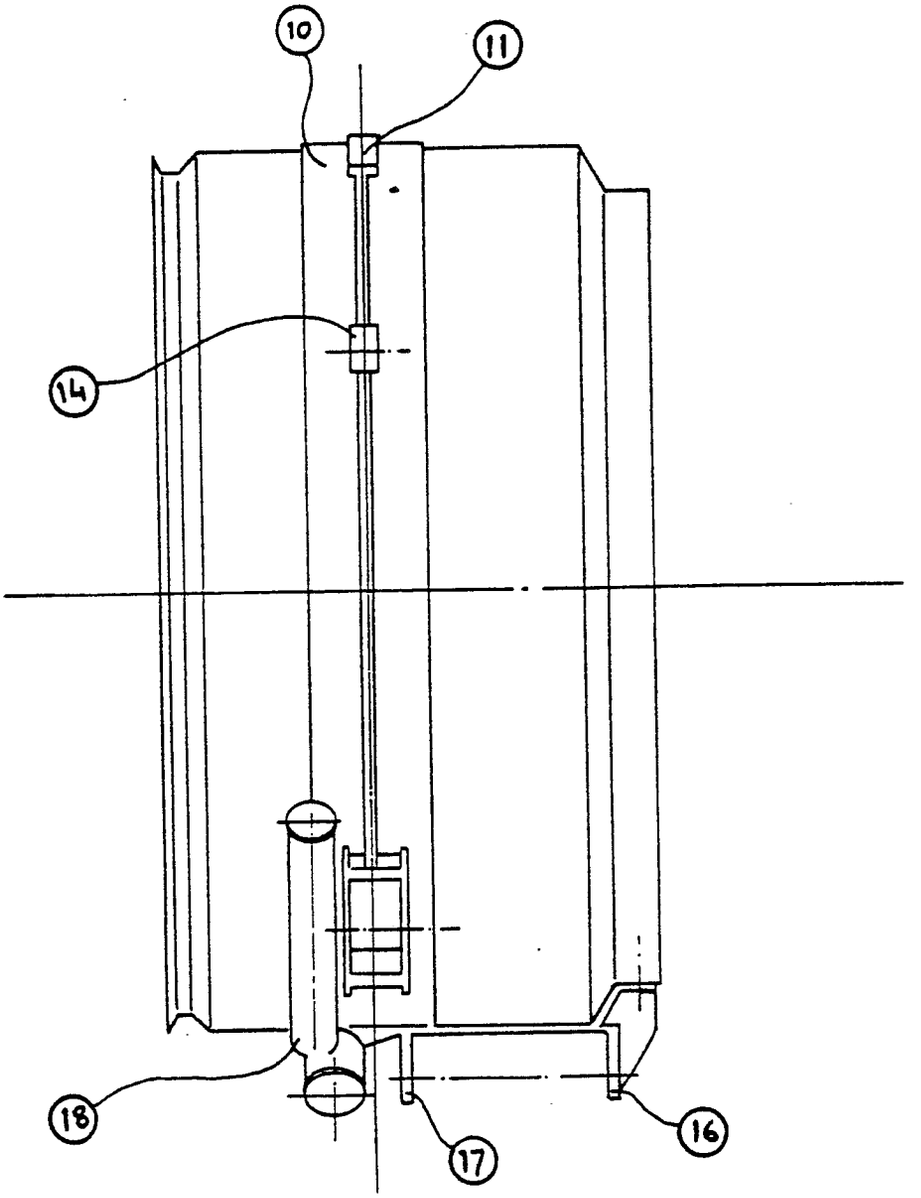

FIG. 2