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• **Ugel, Maurizio**

33080, Fiume Veneto (PN) (IT)

• **Bottos, Roberto**

33080, Porcia (PN) (IT)

• **Campana, Patrizia**

31046, Oderzo (TV) (IT)

(71) Applicant: **Electrolux Home Products Corporation N.V.**

1930 Zaventem (BE)

(74) Representative: **Giugni, Valter**

PROPRIA S.r.l.

P.O. Box 365

Via della Colonna, 35

33170 Pordenone (IT)

(72) Inventors:

• **Cenedese, Claudio**

33037, Pasion di Prato (UD) (IT)

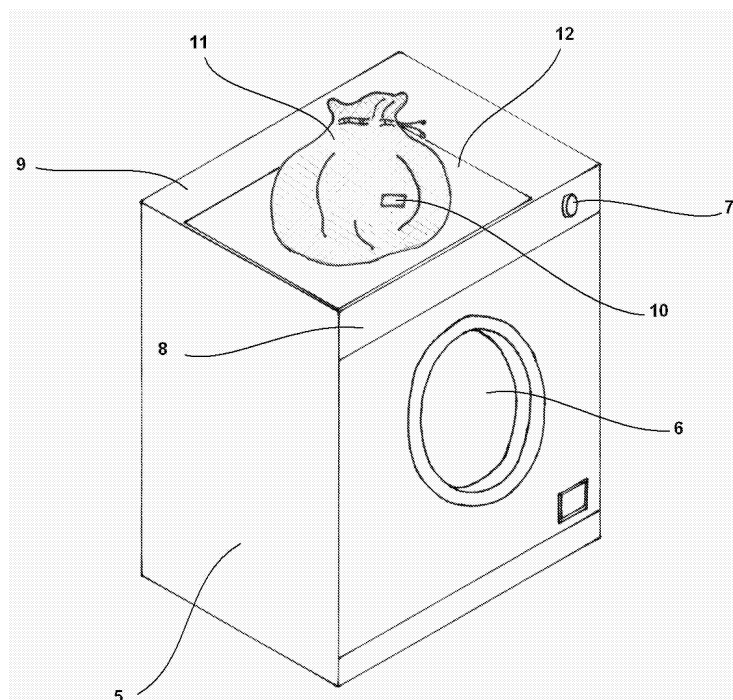
(54) **Laundry system with tag communicating means**

(57) Washing and/or drying system comprising a laundry machine, particularly of domestic type, which is equipped with an electronic control unit, the system comprises a radio frequency identification device (RFID) able to connect with tag communication means associated to laundry items.

The tag communication means (10) are embedded

into a plurality of flexible containers (11) in which laundry items are selectively loaded according to their different qualities.

The RFID and a strain-gauge scale (12) are embedded into the top (9) of the laundry machine to send relevant inputs to the control device of the machine and operate the same.



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Description

[0001] The present invention relates to a laundry machine, e.g. clothes washer, dryer, and washer/dryer, particularly of domestic type, equipped with an electronic control unit comprising a tag communicating device using a radio frequency identification system (RFID).

[0002] Today most of the clothes available on the market have labels reporting all relevant data concerning the fabric qualities and the washing/drying instructions. This allows the user to choose the right program of the laundry machine in connection with the clothes charge to be treated by the machine.

[0003] A step forward is represented by the proposal to use a method of direct communication between laundry items or garments and the laundry machine. In principle, this could allow an optimisation of the laundry cycle and a safer treatment of any type of laundry loads.

[0004] EP 1225267 discloses a system wherein a laundry machine is provided with a RFID which is able to capture automatically data stored on a remotely accessible label associated with each item of laundry. The label, generally known as "tag", is preferably flexible, e.g. made of plastic laminate, and contains an integrated circuit. The RFID is part of or connected to the control unit of the machine, so as to drive the washing/drying process according to the data read by the identification device. However, besides the fact that few clothes are provided with respective tags at present, the user must pay attention to charge correctly the laundry machine in order to avoid possible interference in the control system, due to the introduction of items having quite different characteristics.

[0005] Scope of the present invention is to overcome the drawbacks of the known technique and to propose a laundry machine which is automated at the utmost degree.

[0006] Another scope is to organize better the selected collecting of dirty garments in order to charge the laundry machine in a more rational and correct way.

[0007] These and other scopes are achieved in a laundry machine having the features pointed out in the attached claims.

[0008] Advantages and characteristics of the present invention will be better understood from the following description, given as example not limitative, with reference to the enclosed drawing, which shows in a schematic perspective view a washing and/or drying machine in association with a tagged flexible container, according to the invention.

[0009] With reference to the drawing, a washing/drying machine comprises a cabinet 5 with inside a tub (not shown) that contains a rotating drum accessible through an opening closable by a door 6. At least a knob 7 is provided on the control panel 8 of the machine.

[0010] A RFID reader (known per se and not shown) with its antenna is associated to the top 9 of the machine and is able to read data stored on a label (tag) 10 applied

to a flexible bag 11, preferably a string bag, in which clothes are put.

[0011] A plurality of string bags 11 are provided in order to collect separately clothes of different quality, e.g. cotton, wool, silk and so on, or differently dirtied, e.g. grease stained, mud soiled, ink stained and so on. For the purpose to facilitate the identification of the right bag by the user, the bags 11 are differently coloured or shaped.

[0012] According to another feature of the invention, a weight device 12 can be integrated into the top of the machine. The weight device is preferably a strain-gauge scale and is connected with the electronic control device of the machine (not shown).

[0013] The disclosed technical solution allows the user day by day to put selectively dirty garments within the string bags 11. When a bag is full, the user can put it on the strain-gauge scale 12 of the washing machine top, so as the weight can be gathered by the machine control device. A sound (beep) may be emitted by the machine to confirm that the data has been recorded. Eventually, the previous operation may be repeated with other string bags to reach the admissible charge of the machine.

[0014] Then, the bag is put into the machine drum and the machine can be started by a simple actuation of the knob 7. Indeed, the machine control device has recognized the kind of garments from the tags applied to the bags as well as the weight of the garments from the strain-gauge scale input, so as the most appropriate washing cycle can be carried out.

[0015] The advantages of the invention are clear. The user must not deal with the machine set up, because it can decide by itself the proper operating cycle according to the inputs coming from the RFID reader and the strain-gauge scale. The electronic control device receives said inputs and operates the machine by selecting automatically the proper cycle in a manner per se known. Moreover, the strain-gauge scale 12 may issue a warning message, e.g. a sound (beep) in case too many garments have been loaded (overweight). At last, the use of separate string bags as containers differently labelled offers a handy and rational way of storing garments.

Claims

1. Washing and/or drying system comprising a laundry machine, particularly of domestic type, which is equipped with an electronic control unit, the system comprises a radio frequency identification device (RFID) able to connect with tag communication means associated to laundry items, **characterized in that** the tag communication means (10) are embedded into a plurality of flexible containers (11) in which laundry items are selectively loaded according to their different qualities.
2. Washing and/or drying system, according to claim 1, **characterized in that** the flexible containers (11)

are string bags with different colour or shape.

3. Washing and/or drying system, according to claim 1, **characterized in that** the radio frequency identification device is provided with a reader and an antenna embedded into the top (9) of the laundry machine. 5
4. Washing and/or drying system, according to claim 3, **characterized in that** the electronic control unit comprises a scale device (12) also associated with the top (9) of the laundry machine and adapted to weigh the flexible containers (11) overlapped on the same. 10
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5. Washing and/or drying system, according to claim 1, **characterized in that** the electronic control unit comprises means for selecting the most appropriate washing or drying cycle depending on the specific quality of the charged laundry. 20

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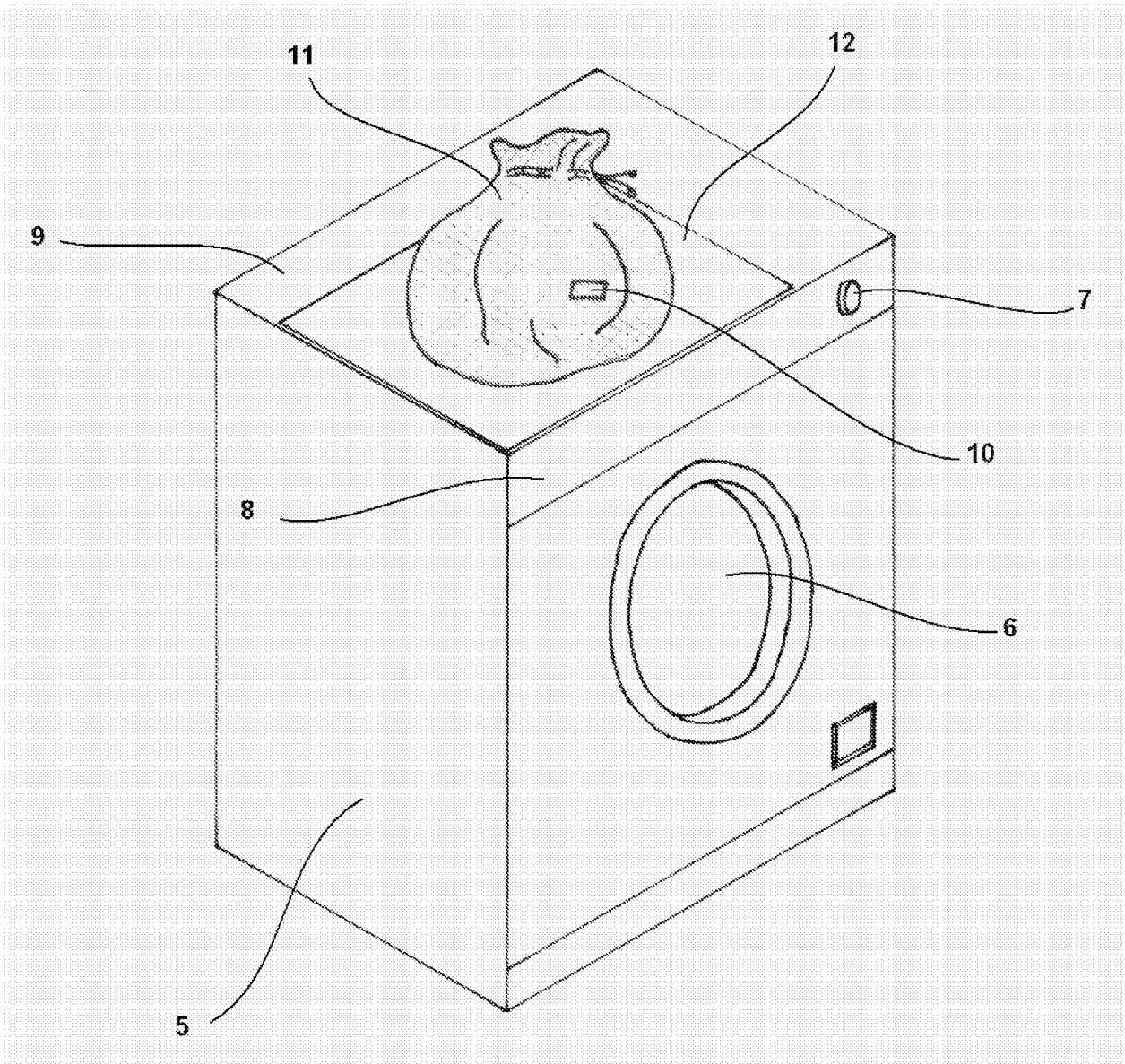
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			D06F
Place of search		Date of completion of the search	Examiner
The Hague		23 July 2007	Jeziarski, Krzysztof
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**ANNEX TO THE EUROPEAN SEARCH REPORT
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

REFERENCES CITED IN THE DESCRIPTION

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