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(54) **Laundry machine equipped with a user interface with a start-up procedure**

(57) The present invention concerns a laundry machine (1) comprising a user interface (5) and a control unit (20), wherein said user interface (5): is operable by a user to switch on and off the laundry machine (1) and to select operating settings of the laundry machine (1) among several predefined user-selectable operating settings; and comprises several light indicators (13,14,15,16) associated, each, with a corresponding predefined user-selectable operating setting. The control

unit (20) is configured to turn on a light indicator (13,14,15,16) if the corresponding predefined user-selectable operating setting associated with said light indicator (13,14,15,16) is selected. The control unit (20) is further configured to carry out a start-up procedure in which, upon the switching on of the laundry machine (1) by a user, all the light indicators (13,14,15,16) are turned on.

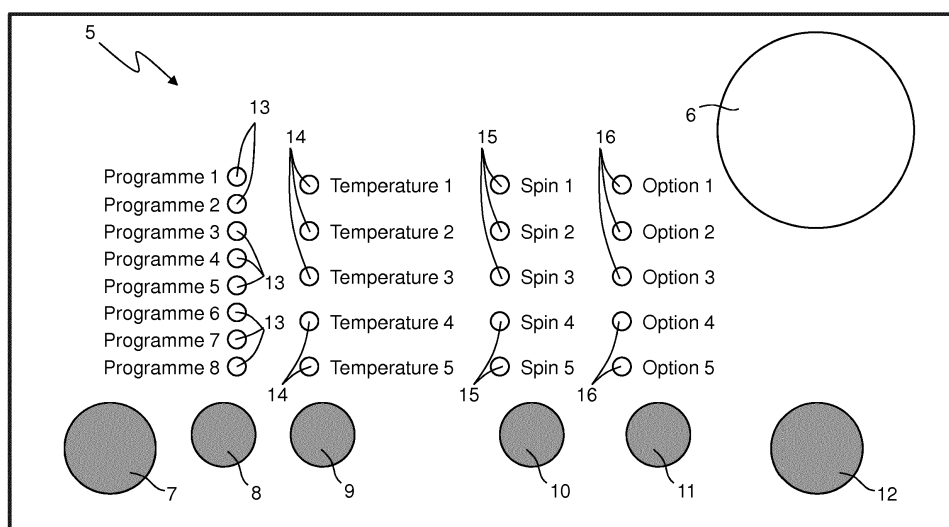


Fig. 2

Description**TECHNICAL FIELD OF THE INVENTION**

[0001] The present invention relates to a laundry machine equipped with a user interface with a start-up procedure.

[0002] It is important to underline the fact that in the present application the expression "laundry machine" may indicate a "simple" laundry washing machine (i.e. a washing machine which can only wash and rinse the laundry), a laundry washing-drying machine (i.e. a washing machine which can also dry the laundry), or a laundry drier (i.e. a laundry machine which can only dry the laundry), both of the front-loading type and of the top-loading type.

BACKGROUND ART

[0003] As it is known, nowadays laundry machines generally comprise an external casing provided with a loading/unloading door which allows the access to a laundry treating chamber in which the laundry to be treated (i.e. washer and/or dried) can be loaded.

[0004] These known laundry machines are designed to perform operating cycles comprising one or more phases; for example a washing machine typically performs washing cycles comprising, for example, a soaking phase, a main wash phase (comprising, for example, the adduction into the washing tub of water mixed with detergent and the rotation of the drum, so as to apply a mechanical action on the laundry), a steam supplying phase, a rinsing phase, a spinning phase, etc.

[0005] These known laundry machines generally comprise also a user interface designed to allow a user to control operations of the laundry machine, for example to select a washing and/ or drying program to be performed.

[0006] For example, US 2009/0217712 A1 describes a washing machine including a user interface in form of a control panel mounted at the front part of a machine body of the washing machine, wherein said user interface comprises:

- a rotary knob for allowing a user to input operating conditions of the washing machine in a rotating fashion;
- a display unit mounted around the rotary knob for displaying the operating conditions of the washing machine inputted by the rotary knob;
- a controller coupled to the inside of the control panel and having a plurality of partitioned Light-Emitting Diodes (LEDs) that can be selectively turned on according to the input from the rotary knob; and
- a decoration panel disposed between the display unit and a LED supporter, which supports the LEDs, for allowing light emitted from the selected LED to be transmitted through the display unit without leakage.

[0007] Moreover, US 2006/0220899 A1 describes a household appliance, in particular a washing machine, comprising:

- an appliance cabinet;
- an appliance user interface including
 - a plurality of appliance settings, each of the settings having a plurality of selection options, and
 - a plurality of bi-color LEDs, each of the bi-color LEDs being associated with one of the selection options.

[0008] According to US 2006/0220899 A1, the bi-color LEDs are used to indicate the current settings of the appliance and the availability of appliance selection options, and to provide feedback during programming of the settings of the household appliance.

[0009] The user interfaces currently used in washing machines have many indications that are hidden or that are not usually illuminated during the programming of the washing machine. Therefore, a user is often not aware of broken indicators or what is the full availability of the settings in different parts of the user interface.

OBJECT AND SUMMARY OF THE INVENTION

[0010] Therefore, an object of the present invention is providing a laundry machine designed so as to overcome, at least in part, the above-mentioned drawbacks.

[0011] This object is achieved, according to the present invention, by a laundry machine as specified in claim 1; claims dependent on claim 1 are referred to advantageous embodiments of the invention.

[0012] In particular this object is achieved by a laundry machine comprising a user interface and a control unit, wherein said user interface:

- is operable by a user to switch on and off the laundry machine, and to select operating settings of the laundry machine among several predefined user-selectable operating settings; and
- comprises several light indicators associated, each, with a corresponding predefined user-selectable operating setting;

wherein the control unit is configured to turn on a light indicator if the corresponding predefined user-selectable operating setting associated with said light indicator is selected;

wherein the control unit is further configured to carry out a start-up procedure in which, upon the switching on of the laundry machine by a user, all the light indicators are turned on.

[0013] In a preferred embodiment, the control unit is configured in such a way that in said start-up procedure all light indicators are switched off after their switching on.

[0014] In a further advantageous embodiment, the

control unit is configured in such a way that, in said start-up procedure, after the switching on of said light indicators only a part of the latter is switched off, so that the remaining part of light indicators, corresponding to a prefixed default program, remains switched on.

[0015] Advantageously, the control unit is configured in such a way that in said start-up procedure the light indicators are switched on according to a predefined turning-on sequence.

[0016] Preferably the control unit is configured in such a way that, in said start-up procedure, after their switching on the light indicators are switched off according to a predefined turning off sequence.

[0017] Preferably, the user interface further comprises a display device, and the control unit is configured in such a way that in said start-up procedure:

- upon the switching on of the laundry machine by a user, the predefined user-selectable operating settings is displayed on the display device; and
- for each displayed predefined user-selectable operating setting, the light indicator associated with the predefined user-selectable operating setting displayed is switched on and off.

[0018] Advantageously, the user interface further comprises a display device, and the control unit is configured in such a way that in said start-up procedure, upon the switching on of the laundry machine by a user, predefined default operating settings of the laundry machine are displayed on the display device.

[0019] Preferably the user interface further comprises a display device, and the control unit is configured in such a way that in said start-up procedure:

- upon the switching on of the laundry machine by a user, display device displays:
 - predefined default operating settings of the laundry machine for a predefined display time,
 - after which the predefined user-selectable operating settings; and
- for each displayed predefined user-selectable operating setting, the light indicator associated with the predefined user-selectable operating setting displayed is turned on and off.

[0020] Advantageously, the control unit is configured in such a way that in said start-up procedure the predefined user-selectable operating settings according to a predefined display sequence is displayed on the display device.

[0021] Preferably the user interface further comprises a display device, and the control unit is configured in such a way that in said start-up procedure, upon the switching on of the laundry machine by a user, the display device indicates that the laundry machine has been switched on.

[0022] Advantageously the control unit is configured in such a way that in said start-up procedure, upon the switching on of the laundry machine by a user, all the light indicators are turned on and off one by one.

[0023] Preferably, the control unit is configured in such a way that in said start-up procedure, upon the switching on of the laundry machine by a user and the turn on and off of all the light indicators, a prefixed set of light indicators corresponding to a prefixed default program is switched on.

BRIEF DESCRIPTION OF THE DRAWINGS

[0024] For a better understanding of the present invention, preferred embodiments, which are intended purely by way of non-limiting example, will now be described with reference to the attached drawings (all not to scale), wherein:

- Figure 1 schematically illustrates a laundry machine according to a preferred embodiment of the present invention; and
- Figure 2 schematically illustrates a user interface of a laundry machine according to the invention.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS OF THE INVENTION

[0025] The following discussion is presented to enable a person skilled in the art to make and use the invention.

[0026] Various modifications to the embodiments will be readily apparent to those skilled in the art, without departing from the scope of the present invention as claimed. Thus, the present invention is not intended to be limited to the embodiments shown and described herein, but is to be accorded the widest scope consistent with the principles and features disclosed herein and defined in the appended claims.

[0027] In particular, the present invention, which relates to a laundry machine equipped with a user interface with a start-up procedure, will be described in the following, only for the sake of simplicity and without losing generality, by making specific reference to a laundry washing machine of the front-loading type, remaining it clear that the present invention can be advantageously exploited, without any substantial modification, also with other types of laundry machines, such as a washing machine of the top-loading type, or a washing-drying machine of the front-loading or top-loading type, or a laundry drier of the front-loading or top-loading type.

[0028] In fact, as it will be clear from the following description, the operation of the laundry machine according to the present invention does not depend on the fact that the laundry machine is a laundry washing machine or a laundry washing-drying machine or a laundry drier of the front-loading or top-loading type.

[0029] Figure 1 schematically illustrates a laundry machine according to a preferred embodiment of the present

invention. The laundry machine shown in Figure 1 is conveniently a laundry washing machine 1 of the front-loading type. Said washing machine 1 comprises an external casing 2 in whose frontal wall 2a an access opening is obtained, provided with a loading/unloading door 3, which allows the access to a washing tub contained in the external casing 2 (said washing tub being not visible in Figure 1 because the loading/unloading door 3 is shown closed); the washing tub contains a rotatable perforated drum (not visible in Figure 1) in which the laundry to be washed can be loaded and unloaded.

[0030] The washing machine 1 advantageously comprises also a removable drawer 4 arranged at an upper region of the frontal wall 2a of the external casing 2 and designed to be filled with washing and/or rinsing products. Conveniently, the removable drawer 4 is part of a water inlet circuit (not visible in Figure 1), which is designed to feed water and washing/rinsing products (i.e. detergents, softeners, etc.) into the washing tub, and which preferably includes also:

- an inlet duct connectable to water delivery mains (not shown in Figure 1 for the sake of illustration simplicity) present outside the washing machine 1 and designed to deliver fresh water to the drawer 4; and
- an outlet duct (not visible in Figure 1), fluidly connecting the drawer 4 and the washing tub and designed to deliver water and washing/rinsing products into the washing tub.

[0031] Conveniently, the washing machine 1 comprises also a draining circuit (not visible in Figure 1) fluidly connected to the bottom of the washing tub and designed to drain the washing/rinsing liquid from the washing tub. Advantageously, the draining circuit may be also provided with a recirculation circuit designed to drain the washing/rinsing liquid from the bottom of the washing tub and to pour said liquid into an upper region of the washing tub for improving the wetting of the laundry.

[0032] Conveniently, the washing machine 1 further comprises some electric and/or electronic components (not visible in Figure 1) designed to perform some specific functions; for example the washing machine 1 may comprise an electric motor for rotating the rotatable drum, an electric pump operable to deliver the washing/rinsing liquid into the washing tub, an electric pump operable to drain and/or to re-circulate the washing/rinsing liquid from the washing tub, an electric heater operable to heat the washing/rinsing liquid, etc.

[0033] The washing machine 1 advantageously comprises also a machine control unit 20 (only schematically represented), preferably an electronic control unit such as an electronic board, a microcontroller, a microprocessor, etc., programmed (i.e. configured by means of a specific software and/or firmware program stored on an internal memory of said machine control unit) to control the electric and/or electronic components of the washing machine 1, so as to cause the washing machine 1 to perform

a washing cycle comprising one or more phases; for example the washing cycle may comprise a pre-wash phase, a soaking phase, a main wash phase (comprising, for example, the adduction into the washing tub of water mixed with detergent and the rotation of the drum, so as to apply a mechanical action on the laundry), a steam supplying phase, a rinsing phase, a spinning phase, etc. A performed washing cycle may comprise one or more of the above mentioned phases (or also other phases well known in the art) depending on the specific operating settings selected by a user of the washing machine 1. Moreover, a phase of the washing cycle may be performed, during a single washing cycle, only once or also two or more times depending on the user's operating settings. Clearly the duration of an overall washing cycle depends on the kind, on the number, and on the duration of its phases.

[0034] The washing machine 1 conveniently comprises also a user interface 5, which advantageously:

- is in form of a control panel;
- is preferably, but not necessarily arranged at the upper region of the frontal wall 2a of the external casing 2, more preferably near the removable drawer 4 (if present); and
- is operatively connected to the machine control unit 20.

[0035] Conveniently, the user interface 5 is configured to allow a user to control operation of the washing machine 1.

[0036] More conveniently, the user interface 5 is configured to allow a user to:

- switch on and off the washing machine 1; and
- select, among one or more sets of predefined user-selectable operating settings, the desired ones for operating the washing machine 1.

[0037] Advantageously, the user interface 5 is further configured to show the user information related to the selected operating settings and/or the washing Cycle corresponding to the selected operating settings and/or the state of the washing machine 1 (as it will be better explained in the following).

[0038] Conveniently, the machine control unit 20 is further programmed to:

- set a washing cycle in response to, and depending on, the operating settings selected by the user via the user interface 5; and
- cause the washing machine 1 to perform the set washing cycle.

[0039] It is important to underline the fact that in the present application the expression "to set a washing cycle" has to be intended as selecting, among some predefined possibilities provided by the washing machine 1,

a washing cycle corresponding to the operating settings selected by the user via the user interface 5. For example, the user may select the type of laundry to be washed (for example wool, cotton, etc.), and/or the maximum rotational speed of the rotatable drum during the spinning phase, and/or the temperature of the washing/rinsing liquid, etc. After the user has set these one or more operating parameters via the user interface 5, the machine control unit 20 selects, among a set of predefined washing cycles memorized in its memory, a washing cycle which fits (or the washing cycle which best fits) the user's operating settings.

[0040] In the embodiment schematically illustrated in figure 1 the machine control unit 20 is advantageously directly integrated into the user interface 5.

[0041] Clearly, in a different embodiment, not illustrated, in which the laundry machine is a washer drier or a laundry drier, what described above with reference to setting and performing a washing cycle by the control unit can be applied as well to setting and performing a drying cycle or a wash and drying cycle by the control unit.

[0042] For a better understanding of the present invention, Figure 2 schematically illustrates only the user interface 5, which preferably includes a display device 6, such as a Liquid Crystal Display (LCD), or a "simple" LED display, or else an Organic Light-Emitting Diode (OLED) display.

[0043] The display device 6 is advantageously configured to display information related to the selected operating settings and/or the operating cycle corresponding to the selected operating settings and/or the state of the laundry machine 1; for example, the display device 6 may display the name of a selected washing programme, an overall duration of the washing cycle corresponding to the user's operating settings, and/or a remaining duration of the washing cycle currently performed, and/or the weight of the loaded laundry (provided that the washing machine 1 is equipped with a weighing device for weighing the laundry loaded into the rotatable drum), etc.

[0044] Conveniently, the user interface 5 includes also one or more user-operable devices for switching on and off the laundry machine 1 and for selecting the operating settings of the laundry machine 1.

[0045] The user-operable device(s) may be advantageously designed to allow the selection of the operating settings among several sets of predefined user-selectable operating settings.

[0046] Preferably, as shown in Figure 2, the user interface 5 comprises several user-operable devices including for example:

- a power key 7 for switching on and off the laundry machine 1 (namely, for switching on the laundry machine 1 when the latter is off, and switching off the laundry machine 1 when the latter is on);
- a programme selector 8 for selecting an operating program among a set of predefined user-selectable operating programs (for example including specific

programmes for washing/drying wool, cotton, synthetic, etc.);

- a temperature selector 9 for selecting a temperature of the washing/rinsing liquid among a set of predefined user-selectable temperatures (for example including temperature of "cold-washing", 30°C, 40°C, 60°C, 90°C, etc.);
- a spin speed selector 10 for selecting a maximum rotational speed of the rotatable drum during the spinning phase among a set of predefined user-selectable maximum rotational speeds (for example including rotational speeds of 0 rpm (i.e., no spinning), 800 rpm, 1200 rpm, 1400 rpm, etc.); and
- an operating option selector 11 for selecting an operating option of the laundry machine 1 among a set of predefined user-selectable operating options (for example including quick washing/drying option, intensive washing option, rinse-only option, drain and spin option, easy iron option, etc.).

[0047] More preferably, the user interface 5 comprises also a further user-operable device 12 (or start button) for starting/pausing the execution of an operating cycle by the laundry machine 1 (namely, to start the execution if the laundry machine 1 is not performing any cycle, or, if an execution is ongoing, to pause it).

[0048] Conveniently, the user-operable devices 7-12 may be in form of keys and/or knobs and/or touch-sensitive input devices.

[0049] In a different embodiment, not illustrated, all, or some of, the user-operable devices 7-12 may be advantageously integrated into a single device, such as a single knob, a keyboard or a touchscreen.

[0050] In a yet different embodiment, not illustrated, the user interface 5 may comprise a touchscreen configured both to:

- display the information related to the selected operating settings and/or the cycle corresponding to the selected operating settings and/or the state of the laundry machine 1; and
- allow the user, by touching some specific regions of the touchscreen, to select the desired operating settings.

[0051] Advantageously, the user interface 5 further comprises several light indicators, such as several LEDs, each of which is associated with a corresponding predefined user-selectable operating setting, and is designed to be turned on if said corresponding predefined user-selectable operating setting is selected.

[0052] The light indicators may be conveniently arranged in groups, each of which:

- is associated with a corresponding set of predefined user-selectable operating settings;
- comprises light indicators associated with the pre-

defined user-selectable operating settings belonging to said corresponding set; and

- is located close to (for example around, or above/below, or on the left/right side of, etc.) a user-selectable device dedicated to the selection among said corresponding set.

[0053] As shown in Figure 2, the light indicators may be advantageously arranged so as to form:

- a first light indicator column arranged above the programme selector 8 and including, for each of the predefined operating programs selectable by the user via said programme selector 8, a corresponding light indicator 13 designed to be turned on if said predefined program is selected;
- a second light indicator column arranged above the temperature selector 9 and including, for each of the predefined temperatures selectable by the user via said temperature selector 9, a corresponding light indicator 14 designed to be turned on if said predefined temperature is selected;
- a third light indicator column arranged above the spin speed selector 10 and including, for each of the predefined maximum rotational speed selectable by the user via said spin speed selector 10, a corresponding light indicator 15 designed to be turned on if said predefined maximum rotational speed is selected; and
- a fourth light indicator column arranged above the operating option selector 11 and including, for each of the predefined operating options selectable by the user via said operating option selector 11, a corresponding light indicator 16 designed to be turned on if said predefined operating option is selected.

[0054] Preferably, the user interface 5 further includes an interface control unit 20, for example an electronic control unit such as an electronic board, a microcontroller, a microprocessor, etc., that is operatively connected to the display 6, the user-operable devices 7-12 and the light indicators 13-16, and that comprises a memory on which a software and/or firmware program executable by said interface control unit is stored. Said software and/or firmware program includes at least a software and/or firmware code portion such that to cause, when executed, the interface control unit to carry out a start-up procedure for starting up the user interface 5.

[0055] Advantageously, the interface control unit carries out said start-up procedure upon the switching on of the washing machine 1 by the user via the power key 7.

[0056] Conveniently, said start-up procedure may include turning on all the light indicators 13-16 thereby allowing the user to check whether all said light indicators 13-16 are working or not properly. In this way the user interface 5 allows the user to check whether all the light indicators 13-16 are working or not properly, since if one or more of the light indicators are not switched on in this

start-up procedure, user is aware that this one or more light indicators are not working properly (while if one light indicator is simply not switched on by actuating one of the user-operable devices 7-11, the user is not able to understand if the corresponding light indicator is not properly working, or if the corresponding cycle setting can't be selected, for example because it is not adapted to the other already selected cycle parameter).

[0057] Advantageously, the control unit is configured in such a way that, in the start-up procedure, upon the switching on of the laundry machine by a user, all light indicators are turned on and subsequently off; in other words in this start-up procedure each light indicator is firstly switched on and then switched off.

[0058] More conveniently, during the carrying out of the start-up procedure, the light indicators 13-16 are turned on (and preferably also off) by the interface control unit according to (i.e. following) a predefined turning-on (and preferably -off) sequence.

[0059] More preferably, in the switch-on procedure all the light indicators 13-16 the light indicators are turned on (and preferably also off) one by one (i.e., singly or individually).

[0060] Preferably, the control unit, in the start-up procedure, upon the switching on of the laundry machine by a user, turns on all light indicators and turns off only a part of the light indicators, in such a way that the remaining part of light indicators, corresponding to a prefixed default program, remains switched on.

[0061] Preferably, the start-up procedure includes:

- indicating on the display device 6 that the laundry machine 1 has been switched on (for example, by displaying the word "On");
- displaying on the display device 6 predefined default operating settings of the laundry machine 1 (such as a predefined default program, a predefined default temperature, a predefined default spin speed, etc.) for a predefined display time, after which displaying on the display device 6 the predefined user-selectable operating settings one by one; and,
- for each displayed predefined user-selectable operating setting, turning on and off the light indicator associated with the predefined user-selectable operating setting displayed.

[0062] In this way the user interface 5 shows the user all the available user-selectable settings of the washing machine 1 and, at the same time, allows him/her to check whether all the light indicators 13-16 are working or not properly.

[0063] More preferably, during the carrying out of the start-up procedure, the interface control unit singly displays on the display device 6 the predefined user-selectable operating settings and, thence, singly turns on and off the light indicators 13-16 according to (i.e. following) a predefined start up sequence.

[0064] Preferably, the interface control unit and the ma-

chine control unit may be advantageously integrated into a single control unit.

[0065] Preferably, the control unit 20 is configured in such a way that, in the start-up procedure, upon the switching on of the laundry machine 1 by a user and the turn on and off of all the light indicators 13,14,15,16, a prefixed set of light indicators corresponding to a prefixed default program is switched on. In other words, in the start-up procedure, after the switching on of the machine, and the above described start-up sequence, the machine is preferably set, as a default, in a prefixed default program (for example a washing program in which the washing temperature is set to 30°C and the cycle duration is 30 minutes), and the corresponding light indicators are switched on, so that the user is aware that this default program is set. At this point user can launch the default cycle, for example by operation on the user-operable device 12, or modifying the cycle by operating on the user-operable devices 7-11.

[0066] From the foregoing, the advantages of the present invention may be immediately appreciated.

[0067] In particular, it is important to underline the fact that the laundry machine according to the present invention overcomes the above-mentioned drawbacks of known laundry machines by means of the start-up procedure exploited to start up the user interface, which start-up procedure allows the user:

- to be aware of all the available user-selectable settings of the laundry machine; and/or
- to check whether all the light indicators associated with the user-selectable settings of the laundry machine are working or not properly.

[0068] Finally, it is clear that numerous modifications and variants can be made to the present invention, all falling within the scope of the invention, as defined in the appended claims.

Claims

1. Laundry machine (1) comprising a user interface (5) and a control unit (20), wherein said user interface (5):

- is operable by a user to switch on and off the laundry machine (1), and to select operating settings of the laundry machine (1) among several predefined user-selectable operating settings; and
- comprises several light indicators (13,14,15,16) associated, each, with a corresponding predefined user-selectable operating setting;

wherein the control unit (20) is configured to turn on a light indicator (13,14,15,16) if the corresponding

predefined user-selectable operating setting associated with said light indicator (13,14,15,16) is selected;

the laundry machine (1) being **characterized in that** the control unit (20) is further configured to carry out a start-up procedure in which, upon the switching on of the laundry machine (1) by a user, all the light indicators (13,14,15,16) are turned on.

2. The laundry machine of claim 1, wherein the control unit (20) is configured in such a way that in said start-up procedure all light indicators (13,14,15,16) are switched off after their switching on.

3. The laundry machine of claim 1, wherein the control unit (20) is configured in such a way that, in said start-up procedure, after the switching on of said light indicators (13,14,15,16) only a part of the latter is switched off, so that the remaining part of light indicators, corresponding to a prefixed default program, remains switched on.

4. The laundry machine of one of claims 1 to 3, wherein the control unit (20) is configured in such a way that in said start-up procedure the light indicators (13,14,15,16) are switched on according to a predefined turning-on sequence.

5. The laundry machine of one of claims 1 to 4, wherein the control unit (20) is configured in such a way that, in said start-up procedure, after their switching on the light indicators (13,14,15,16) are switched off according to a predefined turning off sequence.

6. The laundry machine of claim 1, wherein the user interface (5) further comprises a display device (6), and wherein the control unit (20) is configured in such a way that in said start-up procedure:

- upon the switching on of the laundry machine (1) by a user, the predefined user-selectable operating settings is displayed on the display device (6); and
- for each displayed predefined user-selectable operating setting, the light indicator (13,14,15,16) associated with the predefined user-selectable operating setting displayed is switched on and off.

7. The laundry machine of claim 1, wherein the user interface (5) further comprises a display device (6), and wherein the control unit (20) is configured in such a way that in said start-up procedure, upon the switching on of the laundry machine (1) by a user, predefined default operating settings of the laundry machine (1) are displayed on the display device (6).

8. The laundry machine of claim 1, wherein the user

interface (5) further comprises a display device (6), and wherein the control unit (20) is configured in such a way that in said start-up procedure:

- upon the switching on of the laundry machine (1) by a user, display device (6) displays:
 - predefined default operating settings of the laundry machine (1) for a predefined display time, 10
 - after which the predefined user-selectable operating settings; and
 - for each displayed predefined user-selectable operating setting, the light indicator (13,14,15,16) associated with the predefined user-selectable operating setting displayed is turned on and off. 15
9. The laundry machine according to claim 6 or 8, wherein the control unit (20) is configured in such a way that in said start-up procedure the predefined user-selectable operating settings according to a predefined display sequence is displayed on the display device (6). 20 25
10. The laundry machine according to any preceding claims, wherein the user interface (5) further comprises a display device (6), and wherein the control unit (20) is configured in such a way that in said start-up procedure, upon the switching on of the laundry machine (1) by a user, the display device (6) indicates that the laundry machine (1) has been switched on. 30 35
11. The laundry machine according to any preceding claims, wherein the control unit (20) is configured in such a way that in said start-up procedure, upon the switching on of the laundry machine (1) by a user, all the light indicators (13,14,15,16) are turned on and off one by one. 40
12. The laundry machine according to claim 1 or 2, or any of claims 4 to 11, wherein the control unit (20) is configured in such a way that in said start-up procedure, upon the switching on of the laundry machine (1) by a user and the turn on and off of all the light indicators (13,14,15,16), a prefixed set of light indicators corresponding to a prefixed default program is switched on. 45 50 55

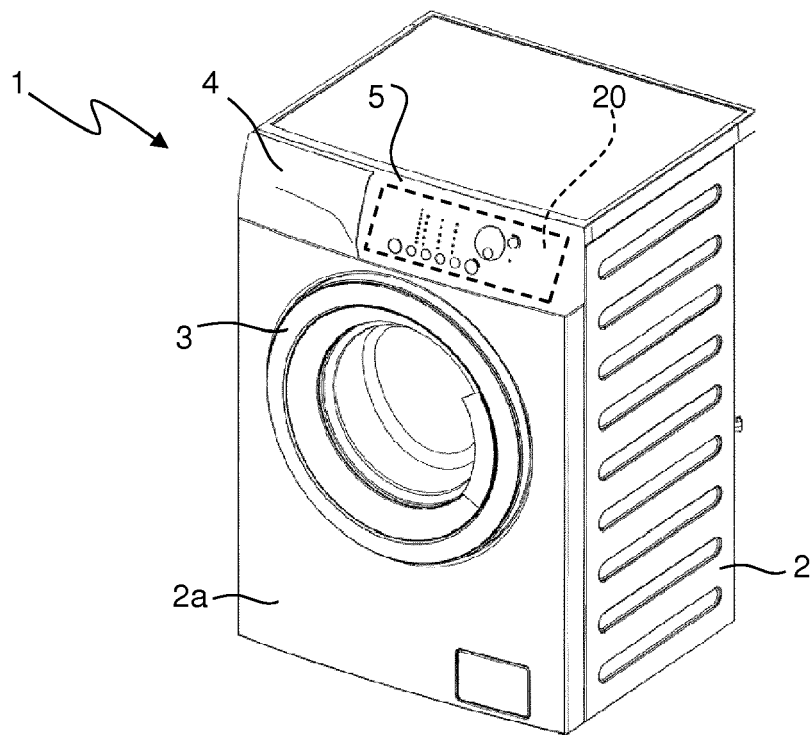


Fig. 1

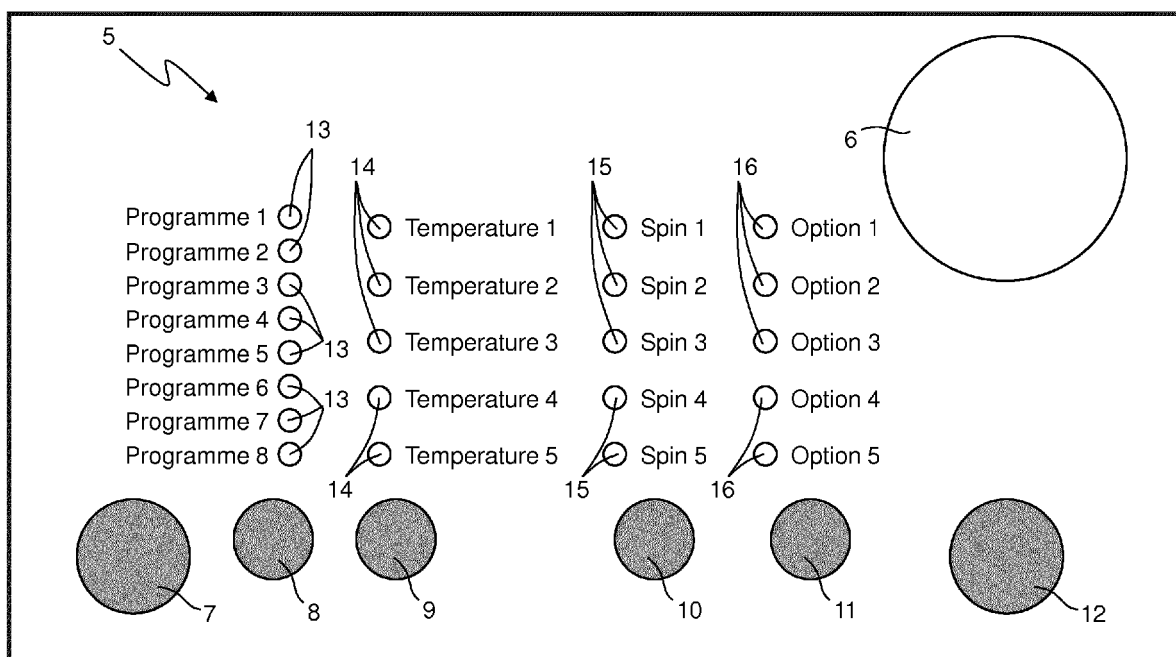


Fig. 2



EUROPEAN SEARCH REPORT

Application Number
EP 13 18 0213

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	US 4 628 443 A (RICKARD JIMMY R [US] ET AL) 9 December 1986 (1986-12-09) * the whole document *	1-12	INV. D06F39/00
A	US 4 158 432 A (VAN BAVEL MICHAEL G) 19 June 1979 (1979-06-19) * the whole document *	1-12	
A,D	US 2006/220899 A1 (SCHULT DENISE L [US]) 5 October 2006 (2006-10-05) * the whole document *	1-12	
A,D	US 2009/217712 A1 (KIM TAE WOO [KR]) 3 September 2009 (2009-09-03) * the whole document *	1-12	
A	EP 2 530 551 A1 (SAMSUNG ELECTRONICS CO LTD [KR]) 5 December 2012 (2012-12-05) * the whole document *	1-12	
			TECHNICAL FIELDS SEARCHED (IPC)
			D06F
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 3 December 2013	Examiner Spitzer, Bettina
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			

 1
EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 13 18 0213

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.

03-12-2013

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4628443 A	09-12-1986	CA 1245262 A1 US 4628443 A	22-11-1988 09-12-1986
US 4158432 A	19-06-1979	NONE	
US 2006220899 A1	05-10-2006	NONE	
US 2009217712 A1	03-09-2009	DE 112006002707 T5 KR 20070040921 A US 2009217712 A1 WO 2007043838 A1	04-09-2008 18-04-2007 03-09-2009 19-04-2007
EP 2530551 A1	05-12-2012	CN 102801577 A EP 2530551 A1 KR 20120131279 A US 2012303323 A1	28-11-2012 05-12-2012 05-12-2012 29-11-2012

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- US 20090217712 A1 [0006]
- US 20060220899 A1 [0007] [0008]