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(71) Applicant: **ARCELIK ANONIM SIRKETI** [TR/TR]; E5
Ankara Asfalti Uzeri, Tuzla, 34950 ISTANBUL (TR).

(72) Inventors: **BUYUKTOPCU, Cagatay**; E5 Ankara Asfalti
Uzeri, Tuzla, 34950 ISTANBUL (TR). **SUNETCI, Onder**;
E5 Ankara Asfalti Uzeri, Tuzla, 34950 ISTANBUL (TR).
OZTURK, Erkan; E5 Ankara Asfalti Uzeri, Tuzla, 34950
ISTANBUL (TR).

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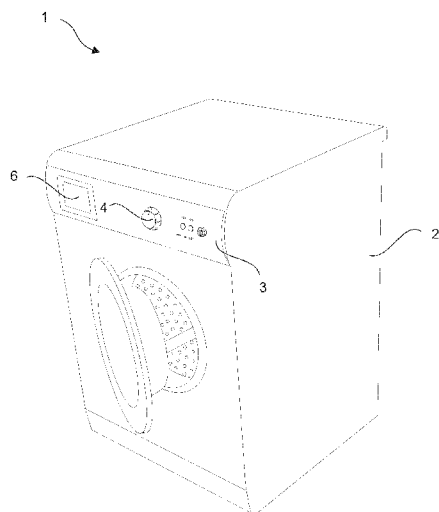
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(54) Title: A LAUNDRY WASHER-DRYER ENABLING EASE OF USE

Figure 1



(57) Abstract: The present invention relates to a washer-dryer (1) comprising, a body (2), a panel (3) arranged on the body (2) enabling the user to monitor and control washing and drying operations, a button (4) arranged on the panel (3), movable by the user by rotating, a dial (5) arranged around the button (4), showing various washing programs (W1, W2, W3,...) and drying programs (D1, D2, D3,...) each of which correspond to a predetermined position of the button (4), and a control unit (6) enabling activation of washing programs (W1, W2, W3,...) or drying programs (D1, D2, D3,...) selected by means of the button (4).



Description**A LAUNDRY WASHER-DRYER ENABLING EASE OF USE**

- [0001] The present invention relates to a laundry washer-dryer comprising a button provided on a panel, enabling ease of use.
- [0002] In household appliances, rotary buttons are commonly used which enable activation of the household appliances or setting their programs. Buttons of such types allow data such as preferred operation program or program parameters to be easily set by the users. However, particularly with laundry washer-dryers having two separate functions, a single rotary button is not sufficient for activating and monitoring the programs. Therefore, auxiliary members such as auxiliary selection buttons and displays or indicators which allow monitoring the selections made, have to be added on the panel. Yet, an excessive number of buttons arranged on the panel make it difficult to use the laundry washer-dryer. Especially the elderly, the illiterate, and the users who have difficulty in using the control panel find more than one button on the panel complicated, are unable to read small-sized scripts, and may be unable to comprehend the symbols. Also, the members arranged on the panel occupy individual spaces preventing effective use of the area on the panel.
- [0003] The state-of-the-art international patent application no. WO2014086598 discloses a household appliance having a button enabling ease of use.
- [0004] The aim of the present invention is to realize a laundry washer-dryer which enables ease of use for the users.
- [0005] The washer-dryer realized to achieve the aim of the present invention and disclosed in the claims, comprises a button provided on the panel, movable by the user by rotating, a dial provided around the button, displaying various washing and drying programs, and a control unit enabling activation of a washing programs or a drying program selected via the dial by means rotating the button.
- [0006] The washer-dryer of the invention comprises a first indicator arranged on the button, enabling selection of a washing program by being brought to a position of which it indicates the washing program by means of rotating the button, and upon selecting a washing program by means of the first

indicator, a second indicator arranged on the button, enabling automatic selection of a drying program by being coming over a drying program suitable for the selected washing program. Thus, when the users initially select a washing program suitable for the laundry, they can also automatically determine a suitable drying program and it becomes unnecessary for them to make a separate selection for drying. By this, satisfaction is increased particularly of users who have difficulty in using the control panel and those who experience doubt in terms of program selection.

- [0007] In another embodiment of the invention, after the washing program selected by the first indicator ends, the control unit activates the drying program automatically selected by the second indicator. By this, drying of the washed laundry by the suitable drying program is ensured and also the use of the washer-dryer is simplified since it is not necessary for the user to perform an additional process for starting the drying program.
- [0008] In one embodiment of the invention, washing program and drying program pairs suitable for each other are positioned vis-a-vis each other on the dial with half a cycle between each other. The first indicator and the second indicator are mutually arranged on the symmetrical axis of the button so as to indicate washing program and drying program pair suitable for each other. By this, it is enabled for the users to easily see the washing program and the drying program suitable for each other and the use of the button is simplified.
- [0009] In another embodiment of the invention, a function button is arranged on the panel and the control unit enables cancellation of selection function of one of the first indicator or the second indicator upon pressing the function button. By this, when only washing or only drying is desired, the user is able to select a washing program or a drying program using a single indicator.
- [0010] In another embodiment of the invention, the first indicator and the second indicator are illuminated by means of a light source. By this, visual perception is enhanced and the user is enabled to distinguish the selected programs more conveniently.

- [0011] In another embodiment of the invention, a second light source illuminating the second indicator blinks when a washing program is in operation. By this, the user is informed that a drying program is not yet activated.
- [0012] In another embodiment of the invention, the control unit enables switching off of the light source of the indicator of which the selection function is deactivated by pressing the function button. By this, only the indicator having the selection function is illuminated and the user is prevented from making selection using an incorrect indicator.
- [0013] The need for members such as additional buttons and indicators arranged on the panel is eliminated thanks to the invention, decreasing production costs and making the panel more comprehensible.
- [0014] The washer-dryer realized to achieve the aims of the present invention is illustrated in the accompanying drawings, wherein:
- [0015] Figure 1 shows a perspective view of a laundry washer-dryer according to an embodiment of the invention.
- [0016] Figure 2 is a partial frontal view of a panel according to an embodiment of the invention.
- [0017] The elements in the figures are numbered individually and the correspondence of these numbers are given hereinafter.
1. Laundry washer-dryer
 2. Body
 3. Panel
 4. Button
 5. Dial
 6. Control unit
 7. First indicator
 8. Second indicator
 9. Function button
 10. First light source
 11. Second light source
- [0018] W1, W2, W3, ... : Washing programs
- [0019] D1, D2, D3, ... : Drying programs
- [0020] The washer-dryer (1) comprises a body (2), a panel (3) arranged on the

body (2) enabling the user to monitor and control washing and drying operations, a button (4) arranged on the panel (3), movable by the user by rotating, a dial (5) arranged around the button (4), showing various washing programs (W1, W2, W3, ...) and drying programs (D1, D2, D3, ...) each of which correspond to a predetermined position of the button (4), and a control unit (6) enabling activation of washing programs (W1, W2, W3, ...) or drying programs (D1, D2, D3, ...) selected by means of the button (4). The dial (5) is formed by indicating on the panel (3), positions assigned by the producer for washing programs (W1, W2, W3, ...) and drying programs (D1, D2, D3, ...). The user can select a washing program (W1, W2, W3, ...) or a drying program (D1, D2, D3, ...) arranged on the dial (5) by rotating the button (4).

[0021] The laundry washer-dryer (1) of the invention comprises a first indicator (7) arranged on the button (4), enabling selection of a washing program (W1, W2, W3, ...) by means of rotating the button (4), and upon selecting a washing program (W1, W2, W3, ...) by means of the first indicator (7), a second indicator (8) arranged on the button (4), enabling automatic selection of and showing a drying program (D1, D2, D3, ...) suitable for the selected washing program (W1, W2, W3, ...). Washing program (W1, W2, W3, ...) and drying program (D1, D2, D3, ...) pairs suitable for each other are positioned on the dial (5) so as to have a constant angle between each other. Thus, upon bringing the first indicator (7) on a washing program (W1, W2, W3, ...) by rotating the button (4), the second (8) indicator also comes over a drying program (D1, D2, D3, ...) suitable for the selected washing program (W1, W2, W3, ...). For example, when a washing program (W1, W2, W3, ...) suitable for sensitive laundry is selected by means of the first indicator (7), the second indicator (8) indicates a drying program (D1, D2, D3, ...) suitable for sensitive laundry. Thus, a washing program (W1, W2, W3, ...) and a drying program (D1, D2, D3, ...) for drying sensitive laundry after washing them can be selected at once. After selection of the washing program (W1, W2, W3, ...) and the drying program (D1, D2, D3, ...), the control unit (6) activates the washing program (W1, W2, W3, ...) selected by the first indicator (7). When the

washing program (W1, W2, W3, ...) is completed, the user can start the already selected suitable drying program (D1, D2, D3, ...) by means of the second indicator. Thus, time consumed for program selection is saved and ease of use provided.

- [0022] In an embodiment of the invention, the control unit (6) enables successive activation of the washing program (W1, W2, W3, ...) selected by means of the first indicator (7) and the drying program (D1, D2, D3, ...) selected by means of the second indicator (8). Right after completion of the washing program (W1, W2, W3, ...) selected by the user by means of the first indicator, the drying program (D1, D2, D3, ...) automatically selected by means of the second indicator (8) is activated. Thus, in case the user desires to dry the washed laundry, it becomes unnecessary for him/her to perform anything to start the drying process.
- [0023] In another embodiment of the invention, each washing program (W1, W2, W3, ...) and drying program (D1, D2, D3, ...) pair suitable for each other are arranged on the dial (5) so as to stand vis-a-vis, and the first indicator (7) and the second indicator (8) face opposite directions to each other so as to indicate the washing program (W1, W2, W3, ...) and drying program (D1, D2, D3, ...) pair suitable for each other. Each washing program (W1, W2, W3, ...) and drying program (D1, D2, D3, ...) suitable for the washing program are arranged on the dial (5) so as to have an angle of 180 degrees between each other. Thus, the washing programs (W1, W2, W3, ...) and the drying programs (D1, D2, D3, ...) are located on separate sides of the dial (5) and make it easier for the users to identify program pairs suitable for each other.
- [0024] In another embodiment of the invention, a function button (9) is provided on the panel (3) and the control unit (6) enables elimination of selection function of one of the first indicator (7) or the second indicator (8) upon pressing the function button (9). The user can deactivate the automatic selection function of the second indicator (8) by pressing the function button (9). Thus, when the user wants the washer-dryer (1) to perform only a washing operation or a drying operation, he/she can select a washing program (W1, W2, W3, ...) or a drying program (D1, D2, D3, ...) by means

of the first indicator (7).

- [0025] In another embodiment of the invention, a first light source (10) illuminating the first indicator (7) and a second light source (11) illuminating the second indicator (8) is arranged on the button (4). Program selection is facilitated for the user thanks to illumination of the indicators (7, 8). LED (light emitting diode) is used as the light source (10, 11) considering ease of use and costs.
- [0026] In another embodiment of the invention, the control unit (6) enables blinking of the second light source (11) when a washing program (W1, W2, W3, ...) is in operation. During operation of the washing program (W1, W2, W3, ...) selected by means of the first indicator (7), the first light source (10) illuminates continuously and the second light source (11) illuminating the second indicator (8) comes on and off intermittently. Thus, the user is informed that washing operation continues and the drying program (D1, D2, D3, ...) will be activated after washing program (W1, W2, W3, ...).
- [0027] In another embodiment of the invention, the control unit (6) enables switching off of the first light source (10) or the second light source (11) of the first indicator (7) or the second indicator (8) of which the selection function is canceled by means of the function button (9). Upon pressing the function button (9) by the user, the control unit (6) eliminates the selection function of the second indicator (8) and enables switching off of the second light source (11). Thus, only the first indicator (7) allowing selection of the user on the button (4) is illuminated and the user is prevented from making selection using an incorrect indicator.
- [0028] With the invention, a washer-dryer (1) is obtained which can be simply and quickly programmed and operated by the users thanks to selection of the suitable washing program (W1, W2, W3, ...) and the drying program (D1, D2, D3, ...) simultaneously and by means of a single button (4). Furthermore, effective output of the washer-dryer (1) is also obtained by enabling laundry to be always washed and dried with programs that are suitable for each other.

Claims

1. A washer-dryer (1) **comprising** a body (2), a panel (3) arranged on the body (2) enabling the user to monitor and control washing and drying operations, a button (4) arranged on the panel (3), movable by the user by rotating, a dial (5) arranged around the button (4), showing various washing programs (W1, W2, W3, ...) and drying programs (D1, D2, D3, ...) each of which correspond to a predetermined position of the button (4), and a control unit (6) enabling activation of washing programs (W1, W2, W3, ...) or drying programs (D1, D2, D3, ...) selected by means of the button (4), **characterized in that**, a first indicator (7) provided on the button (4) shows the selected washing program (W1, W2, W3, ...) chosen by means of rotating the button (4) and upon selecting a washing program (W1, W2, W3, ...) by means of the first indicator (7), a second indicator (8) provided on the button (4) shows and enables automatic selection of a drying program (D1, D2, D3, ...) suitable for the selected washing program (W1, W2, W3, ...) .
2. The washer-dryer according (1) to claim 1, **characterized in that**, the control unit (6) enables successive activation of the washing program (W1, W2, W3, ...) selected by means of the first indicator (7) and the drying program (D1, D2, D3, ...) selected by means of the second indicator (8).
3. The washer-dryer (1) according to claim 1 or claim 2, **characterized in that**, each washing program (W1, W2, W3, ...) and drying program (D1, D2, D3, ...) pair suitable for each other are arranged on the dial (5) so as to stand vis-a-vis, and the first indicator (7) and the second indicator (8) show opposite directions to each other so as to indicate the washing program (W1, W2, W3, ...) and drying program (D1, D2, D3, ...) pair suitable for each other.
4. The washer-dryer (1) according to any one of the preceding claims, **characterized in that**, a function button (9) is provided on the panel (3), and the control unit (6) enables cancellation of selection function of one of the first indicator (7) or the second indicator (8) upon pressing the function button (9).
5. The washer-dryer (1) according to any one of the preceding claims, **characterized in that**, a first light source (10) provided on the button (4) enables illumination of the first indicator (7), and a second light source (11) provided on the button (4) enables illumination of the second indicator (8).

6. The washer-dryer (1) according to claim 5, **characterized in that**, the control unit (6) enables blinking of the second light source (11) when a washing program (W1, W2, W3, ...) is in operation.
7. The washer-dryer (1) according to claim 5, **characterized in that**, the control unit (6) enables switching off of the first light source (10) or the second light source (11) of the first indicator (7) or the second indicator (8) of which the selection function is deactivated by means of the function button (9).

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Figure 1

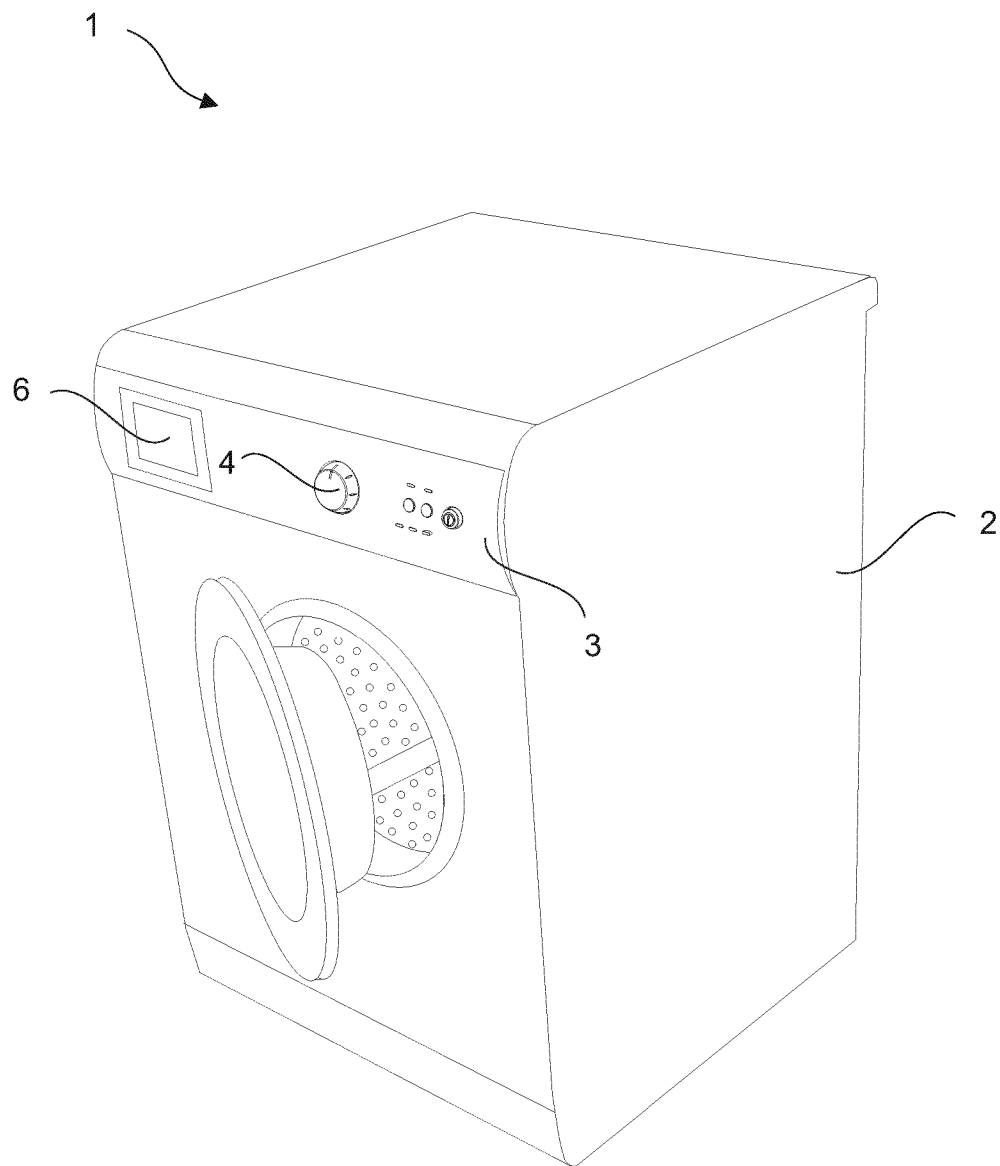
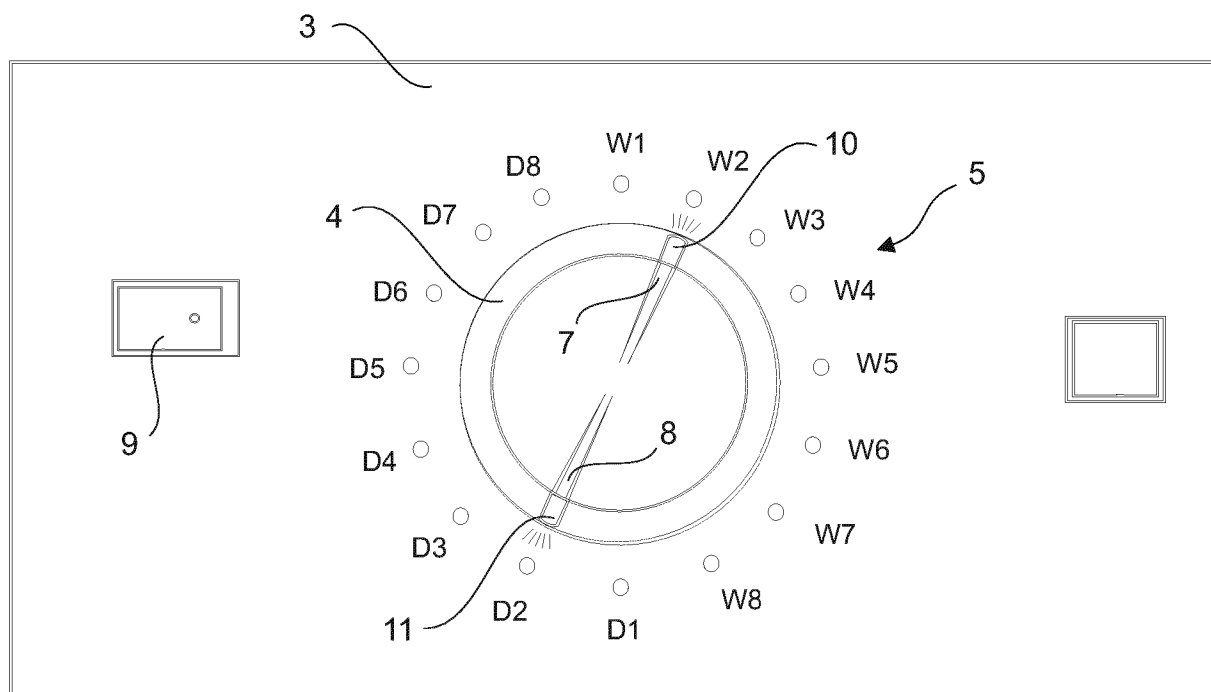


Figure 2



INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2017/068901

A. CLASSIFICATION OF SUBJECT MATTER
 INV. D06F39/00
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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 D06F G05G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2014/155164 A1 (INDESIT CO SPA [IT]) 2 October 2014 (2014-10-02) the whole document -----	1-7
A	EP 2 933 368 A1 (LG ELECTRONICS INC [KR]) 21 October 2015 (2015-10-21) the whole document -----	1-7
A	EP 2 837 723 A1 (ELECTROLUX APPLIANCES AB [SE]) 18 February 2015 (2015-02-18) the whole document -----	1-7



Further documents are listed in the continuation of Box C.



See patent family annex.

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European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040,
 Fax: (+31-70) 340-3016

Authorized officer

Diaz y Diaz-Caneja

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2017/068901

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