



(11)

EP 4 567 180 A1

(12)

EUROPEAN PATENT APPLICATION
published in accordance with Art. 153(4) EPC

(43) Date of publication:
11.06.2025 Bulletin 2025/24

(21) Application number: **23873200.2**

(22) Date of filing: **27.09.2023**

(51) International Patent Classification (IPC):
D06F 34/34 ^(2020.01) **D06F 34/30** ^(2020.01)
D06F 34/32 ^(2020.01) **D06F 34/05** ^(2020.01)
D06F 33/32 ^(2020.01) **D06F 33/52** ^(2020.01)
D06F 101/00 ^(2020.01) **D06F 105/58** ^(2020.01)

(52) Cooperative Patent Classification (CPC):
D06F 33/32; D06F 33/52; D06F 34/05; D06F 34/30;
D06F 34/32; D06F 34/34

(86) International application number:
PCT/KR2023/015012

(87) International publication number:
WO 2024/072091 (04.04.2024 Gazette 2024/14)

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL
NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA
Designated Validation States:
KH MA MD TN

(30) Priority: **27.09.2022 KR 20220122836**

(71) Applicant: **LG Electronics Inc.**
Yeongdeungpo-gu
Seoul 07336 (KR)

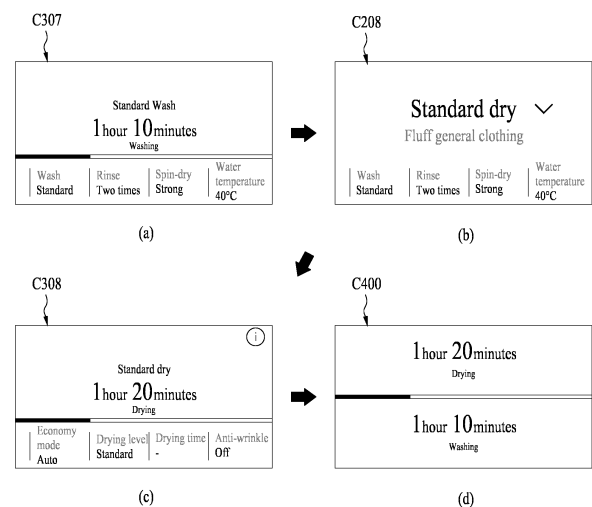
(72) Inventor: **SEO, Kyunghye**
Seoul 08592 (KR)

(74) Representative: **Ter Meer Steinmeister & Partner**
Patentanwälte mbB
Nymphenburger Straße 4
80335 München (DE)

(54) **LAUNDRY TREATING APPARATUS AND CONTROL METHOD FOR SAME**

(57) A laundry treating apparatus and a control method for same are disclosed. A laundry treating apparatus according to an embodiment of the present invention comprises: a first treatment device arranged to perform a first course; a second treatment device arranged to perform a second course; and a screen output portion arranged to output one of a first screen, which displays information about the first treatment device, and a second screen, which displays information about the second treatment device. The screen output portion is arranged to output the first screen or the second screen having a higher priority

FIG. 14



EP 4 567 180 A1

Description

TECHNICAL FIELD

[0001] The present disclosure relates to a laundry treating apparatus and a control method for the same, and more particularly, to a laundry treating apparatus including a screen output portion configured to output a screen, and a control method for the same.

BACKGROUND ART

[0002] Laundry treating apparatuses remove dirt on laundry by putting clothes, bedding, etc. (hereinafter referred to as laundry) into a drum. Laundry treating apparatuses can perform processes such as washing, rinsing, spin-drying, and drying, and laundry treating apparatuses may be classified into a top loading type and a front loading type based on the method of putting laundry into the drum.

[0003] A laundry treating apparatus may include a housing that forms the exterior, a tub accommodated inside the housing, a drum into which laundry is put, which is rotatably mounted inside the tub, and a detergent supply device that supplies detergent into the drum.

[0004] When the drum rotates by a motor in a state in which washing water is supplied to laundry accommodated in the drum, dirt on the laundry can be removed by friction between the laundry and the drum and the washing water.

[0005] The detergent supply device has a detergent supply function to enhance the washing effect. Here, the detergent refers to a substance that enhances the washing effect, such as a fabric detergent, a fabric softener, and a fabric bleach. The detergent may be a powdered detergent or a liquid detergent.

[0006] Meanwhile, if a laundry treating apparatus is provided to dry laundry, the laundry treating apparatus can remove moisture from the laundry by providing dry air to the laundry.

[0007] The laundry treating apparatus may include a cabinet, a drum provided to be rotatable inside the cabinet, and a heating means for heating or drying the air provided to laundry.

[0008] Since dry air is supplied to the laundry accommodated in the drum, moisture present in the laundry can be evaporated and removed by the dry air, and moisture in the laundry can be removed.

[0009] Meanwhile, related literature KR 10-2008-0021921 A1 discloses a laundry treating apparatus equipped with a plurality of treatment devices. The laundry treating apparatus disclosed in the related literature includes a first treatment device and a second treatment device.

[0010] The first treatment device and the second treatment device may have a laundry opening formed in a cabinet that communicates with a drum therein, a control panel may be provided, and, when detergent is

used, an inlet for a detergent storage portion may be formed.

[0011] The first treatment device and the second treatment device in the related literature may each have a control panel, and the control panel may have a screen output portion that outputs a screen. Accordingly, the first treatment device and the second treatment device in the related literature may provide different types of information through the screen output portions thereof.

10 [0012] However, if the first treatment device and the second treatment device are provided to perform independent courses for treating laundry, outputting information through the respective screen output portions may be inconvenient because the user needs to check multiple screen output portions, and the problem of increased costs may arise due to provision of separate screen output portions for the treatment devices.

15 [0013] To overcome this, multiple treatment devices may be connected to provide one screen output portion that provides information on the multiple treatment devices. However, providing information on multiple treatment devices through one screen output portion may result in low visibility or some information being omitted when considering the amount of information on the limited output area of the screen.

20 [0014] Therefore, in providing one screen output portion that provides information on multiple treatment devices together, efficiently outputting information on the multiple treatment devices through the screen of the screen output portion while effectively conveying important information to the user is an important task in the present technical field.

TECHNICAL TASK

35 [0015] Embodiments of the present disclosure provide a laundry treating apparatus capable of including a plurality of treatment devices and a control method thereof.

40 [0016] In addition, embodiments of the present disclosure provide a laundry treating apparatus including a screen output portion capable of outputting information related to a plurality of treatment devices and a control method thereof.

45 [0017] In addition, embodiments of the present disclosure provide a laundry treating apparatus capable of efficiently distinguishing and outputting screens for different treatment devices and a control method thereof.

50 [0018] In addition, embodiments of the present disclosure provide a laundry treating apparatus including a screen output portion that efficiently outputs a plurality of different screens according to importance and a control method thereof.

55 [0019] In addition, embodiments of the present disclosure provide a laundry treating apparatus including a screen output portion that can output screens for a plurality of treatment devices according to priority and effectively provide the screens to a user and a control method thereof.

TECHNICAL SOLUTIONS

[0020] A laundry treating apparatus according to an embodiment of the present disclosure includes a first treatment device and a second treatment device. The first treatment device and the second treatment device each include a drum and may perform different laundry treatment courses.

[0021] In one embodiment of the present disclosure, a screen output portion is connected to the first treatment device and the second treatment device to output a first screen indicating information on the first treatment device and a second screen indicating information on the second treatment device.

[0022] The screen output portion may output a screen having a higher priority between the first screen and the second screen. The priority may be determined in various ways and may be determined according to the importance of the content in the progress of a course.

[0023] In one embodiment of the present disclosure, screens for a plurality of treatment devices may be output through a single screen output portion, and further, a screen to be output may be determined based on priorities of the first screen and the second screen, thereby effectively providing various types of information to a user using a limited display area.

[0024] A laundry treating apparatus according to an embodiment of the present disclosure includes a first treatment device, a second treatment device, and a screen output portion. The first treatment device includes a first cabinet and a first drum provided inside the first cabinet and accommodating laundry and is provided to perform a first course for treating the laundry accommodated in the first drum.

[0025] The second treatment device includes a second cabinet and a second drum provided inside the second cabinet and accommodating laundry and is provided to perform a second course for treating the laundry accommodated in the second drum.

[0026] The screen output portion is provided in at least one of the first treatment device and the second treatment device and arranged to output one of a first screen displaying information on the first treatment device and a second screen displaying information on the second treatment device. The screen output portion outputs a screen having a higher priority between the first screen and the second screen.

[0027] A controller may be provided in at least one of the first treatment device and the second treatment device, receive information from the first treatment device and the second treatment device, and control the screen output portion.

[0028] A priority determination criterion for the first screen and the second screen may be set in advance in the controller, and the controller may control the screen output portion such that a screen having a higher priority between the first screen and the second screen currently required to be output is output.

[0029] The first screen may include a first course setting screen displaying setting information of the first course in a setting process of the first course, the second screen may include a second course setting screen displaying setting information of the second course in a setting process of the second course, and when power is applied to the second treatment device during output of the first course setting screen, the screen output portion may switch from the first course setting screen to the second course setting screen.

[0030] A switching button may be provided on at least one of the first treatment device and the second treatment device and operated by a user. When the switching button is operated in a state in which the first course setting screen has been switched to the second course setting screen, the screen output portion may switch from the second course setting screen to the first course setting screen.

[0031] The first screen may include a first course progress screen displaying progress information of the first course, and the second screen may include a second course setting screen displaying setting information of the second course in a setting process of the second course.

[0032] When power is applied to the second treatment device while the first course progress screen is being output from the screen output portion, the screen output portion may switch from the first course progress screen to the second course setting screen.

[0033] When a first time has passed after the second course setting screen is output during progress of the first course, the screen output portion may switch from the second course setting screen to the first course progress screen.

[0034] When a second time has elapsed after the first course progress screen is output in the setting process of the second course, the screen output portion may output a power cutoff indicator indicating power cutoff of the second treatment device on the first course progress screen.

[0035] The power cutoff indicator may be output in a modal dialog form on the first course progress screen. The second screen may include a second course progress screen displaying progress information of the second course. The screen output portion may output the second course progress screen when the second course is in progress during progress of the first course.

[0036] The screen output portion may be provided to output the first screen, the second screen, or a simultaneous screen in which information on the first treatment device and information on the second treatment device are displayed together.

[0037] The controller may be provided in at least one of the first treatment device and the second treatment device to control the screen output portion. A priority determination criterion for the first screen, the second screen, and the simultaneous screen may be set in advance in the controller, and the controller may control

the screen output portion such that the simultaneous screen is output when priorities of the first screen and the second screen according to the priority determination criterion are the same.

[0038] The second screen may include a second course progress screen displaying progress information of the second course, and when a third time has elapsed after the second course progress screen is output during progress of the first course, the screen output portion may switch from the second course progress screen to the simultaneous screen.

[0039] An input portion may be provided in at least one of the first treatment device, the second treatment device, and the screen output portion and operated by a user to generate an input signal. The simultaneous screen may include a first area in which information on the first treatment device is displayed and a second area in which information on the second treatment device is displayed.

[0040] When the second area is selected according to the input signal while the simultaneous screen is output, the screen output portion may switch from the simultaneous screen to the second course progress screen.

[0041] A switching button may be provided on at least one of the first treatment device and the second treatment device and operated by a user, and the first screen may include a first course progress screen displaying progress information of the first course.

[0042] When the switching button is operated while the simultaneous screen is output, the screen output portion may switch from the simultaneous screen to the first course progress screen or the second course progress screen.

[0043] The first screen may include a first error notification screen displaying an error state during the progress of the first course, and when an error state of the first course occurs while the simultaneous screen is output, the screen output portion may switch from the simultaneous screen to the first error notification screen.

[0044] An input portion may be provided in at least one of the first treatment device, the second treatment device, and the screen output portion and operated by a user to generate an input signal.

[0045] The first error notification screen may include a confirmation area selectable based on the input signal, the first screen may further include a first course stop screen indicating that the first course is stopped, and when the confirmation area of the first error notification screen is selected, the screen output portion may switch from the first error notification screen to the first course stop screen.

[0046] When an output state of the first error notification screen continues for a fourth time, the screen output portion may output the simultaneous screen in which an error state of the first treatment device and a progress state of the second course are displayed together.

[0047] An input portion may be provided in at least one of the first treatment device, the second treatment device, and the screen output portion and operated by a user to

generate an input signal.

[0048] The simultaneous screen may include a first area in which an error state of the first treatment device is displayed and a second area in which information on the second treatment device is displayed, and the screen output portion may switch from the simultaneous screen switches to the first error notification screen when the first area is selected and switch from the simultaneous screen to the second course progress screen when the second area is selected.

[0049] In the laundry treating apparatus according to an embodiment of the present disclosure, the screen output portion may switch from the first screen to the second screen when power is applied to the second treatment device during output of the first screen.

[0050] The screen output portion may display a device indicator indicating a device corresponding to a currently output screen between the first treatment device and the second treatment device on the first screen and the second screen.

[0051] The device indicator may differentiate a state indicating the first treatment device from a state indicating the second treatment device by changing a color of the device indicator while maintaining a shape of the device indicator.

[0052] A method of controlling a laundry treating apparatus according to an embodiment of the present disclosure includes a single screen output step. In the single screen output step, the screen output portion outputs a screen having a higher priority between a first screen on which information on the first treatment device is displayed and a second screen on which information on the second treatment device is displayed.

[0053] In a priority determination step prior to the single screen output step, a controller for controlling the screen output portion may determine priorities of the first screen and the second screen according to a preset priority determination criterion.

[0054] In the single screen output step, the controller may control the screen output portion to output a screen having a higher priority determined in the priority determination step.

[0055] In the priority determination step, the controller may determine a screen for which an output request has been most recently generated between the first screen and the second screen as having a higher priority.

[0056] In a screen switching determination step after the single screen output step, the controller may determine whether a switching condition for switching one of the first screen and the second screen output from the screen output portion to the other is satisfied.

[0057] The first screen may include a first course setting screen indicating a setting process of the first course, and the second screen may include a second course setting screen indicating a setting process of the second course.

[0058] In the screen switching determination step, if the first course and the second course correspond to

setting processes and the screen output portion outputs the first course setting screen indicating the setting process of the first course in the first screen, the controller may determine that the switching condition is not satisfied.

[0059] In the screen switching determination step, if the first course is in progress, the second course corresponds to the setting process, and the screen output portion outputs the second course setting screen indicating the setting process of the second course in the second screen, the controller may determine that the switching condition is satisfied.

[0060] In the screen switching determination step, if the first course and the second course are each in progress and the screen output portion outputs a first course progress screen indicating a progress state of the first course in the first screen, the controller may determine that the switching condition is satisfied.

[0061] In the screen switching determination step, if the first course is in progress, the second course is in progress and is in an error state, and the screen output portion outputs a second error notification screen indicating the error state of the second course among the second screens, the controller may determine that the switching condition is satisfied.

[0062] In a simultaneous screen determination step, the controller may determine whether an output condition for a simultaneous screen in which information on the first treatment device and information on the second treatment device are displayed together is satisfied if the switching condition is determined to be satisfied in the screen switching determination step.

[0063] In the simultaneous screen determination step, if the first course and the second course are each in progress, or at least one of the first course and the second course is in an error state and the other is in progress, the controller may determine that the output condition for the simultaneous screen is satisfied.

ADVANTAGEOUS EFFECTS

[0064] Embodiments of the present disclosure can provide a laundry treating apparatus that can include a plurality of treatment devices and a control method thereof.

[0065] In addition, embodiments of the present disclosure can provide a laundry treating apparatus including a screen output portion that can output information related to a plurality of treatment devices and a control method thereof.

[0066] In addition, embodiments of the present disclosure can provide a laundry treating apparatus that can efficiently distinguish and output screens for different treatment devices and a control method thereof.

[0067] In addition, embodiments of the present disclosure can provide a laundry treating apparatus including a screen output portion that efficiently outputs a plurality of different screens according to importance and a control

method thereof.

[0068] In addition, embodiments of the present disclosure can provide a laundry treating apparatus including a screen output portion that can output screens for a plurality of treatment devices according to priority and effectively provide the same to a user and a control method thereof.

DESCRIPTION OF DRAWINGS

[0069]

FIG. 1 is a front perspective view of a laundry treating apparatus according to an embodiment of the present disclosure.

FIG. 2 is a side view of the laundry treating apparatus according to an embodiment of the present disclosure.

FIG. 3 is a rear perspective view of the laundry treating apparatus according to an embodiment of the present disclosure.

FIG. 4 is a conceptual diagram showing a control connection relationship between a first treatment device, a second treatment device, and a screen output portion in the laundry treating apparatus according to an embodiment of the present disclosure.

FIG. 5 is a diagram showing a control panel in the laundry treating apparatus according to an embodiment of the present disclosure.

FIG. 6 is an operational conceptual diagram showing a process from power supply to course progress in the laundry treating apparatus according to an embodiment of the present disclosure.

FIG. 7 is a diagram showing a start screen output through the screen output portion in an embodiment of the present disclosure.

FIG. 8 is a diagram showing a course setting screen output through the screen output portion in an embodiment of the present disclosure.

FIG. 9 is a diagram showing a course progress screen output through the screen output portion in an embodiment of the present disclosure.

FIG. 10 is a diagram showing a first course setting screen and a second course setting screen output through the screen output portion in an embodiment of the present disclosure.

FIG. 11 is a diagram showing a first course progress screen and a second course progress screen output through the screen output portion in an embodiment of the present disclosure.

FIG. 12 is a diagram showing a situation in which a screen output through the screen output portion is switched from a first course setting screen to a second course setting screen in an embodiment of the present disclosure.

FIG. 13 is a diagram showing a situation in which a second course setting screen is output during output of a first course progress screen through the screen

output portion in an embodiment of the present disclosure.

FIG. 14 is a diagram showing a situation in which a simultaneous screen is output through the screen output portion in an embodiment of the present disclosure.

FIG. 15 is a diagram showing a situation in which a second course progress screen is output during output of a simultaneous screen through the screen output portion in an embodiment of the present disclosure.

FIG. 16 is a diagram showing a situation in which an error notification screen is output during output of a simultaneous screen through the screen output portion in an embodiment of the present disclosure.

FIG. 17 is a diagram showing a situation in which a first error notification screen output through the screen output portion is switched to a first course progress screen in an embodiment of the present disclosure.

FIG. 18 is a flowchart showing a method of controlling the laundry treating apparatus according to an embodiment of the present disclosure.

BEST MODE FOR DISCLOSURE

[0070] Hereinafter, embodiments of the present disclosure will be described in detail with reference to the attached drawings such that those skilled in the art can easily implement the same.

[0071] However, the present disclosure may be implemented in various different forms and is not limited to the embodiments described herein. In addition, in order to clearly describe the present disclosure, parts that are not related to the description are omitted in the drawings, and similar reference numerals are assigned to similar parts throughout the specification.

[0072] In this specification, redundant descriptions of the same components are omitted.

[0073] In addition, when a component is mentioned as being "coupled" or "connected" to another component in this specification, it should be understood that the component may be directly coupled or connected to the other component, but other components may be present in between. On the other hand, when a component is mentioned as being "directly coupled" or "directly connected" to another component in this specification, it should be understood that no other components are present in between.

[0074] Further, the terms used in this specification are only used to describe specific embodiments and are not intended to limit the present disclosure.

[0075] In addition, in this specification, singular expression may include plural expression unless the context clearly indicates otherwise.

[0076] Further, in this specification, the terms "include" and "have" are intended to specify that a feature, number, step, operation, component, part, or combination thereof

described in the specification exists, but should be understood as not precluding the possibility of presence or addition of one or more other features, numbers, steps, operations, components, parts, or combinations thereof.

[0077] In addition, in this specification, the term "and/or" includes a combination of multiple described items or any item among multiple described items. In this specification, "A or B" may include "A", "B", or "both A and B".

[0078] FIG. 1 illustrates a laundry treating apparatus 1 including a first treatment device 2 and a second treatment device 3 according to an embodiment of the present disclosure. Although FIG. 1 illustrates a form in which the first treatment device 2 and the second treatment device 3 are stacked, the present disclosure is not necessarily limited thereto, and the first treatment device 2 and the second treatment device 3 may be positioned parallel to the ground or spaced apart from each other.

[0079] However, for convenience of explanation, the following description will be based on a form in which the first treatment device 2 and the second treatment device 3 are stacked vertically on the ground as illustrated in FIG. 1.

[0080] Referring to FIG. 1, one embodiment of the present disclosure may include the second treatment device 3 installed on the first treatment device 2. The first treatment device 2 may include a first cabinet 20. The first cabinet 20 may have a space formed inside and form the exterior of the first treatment device 2.

[0081] The second treatment device 3 may include a second cabinet 30. The second cabinet 30 may have a space formed inside and form the exterior of the second treatment device 3.

[0082] The first cabinet 20 may be placed above the second cabinet 30. That is, the first cabinet 20 may be supported by the second cabinet 30. However, in one embodiment of the present disclosure, the cabinets of the first treatment device 2 and the second treatment device 3 do not necessarily need to be separated, and thus the first treatment device 2 and the second treatment device 3 may share one cabinet.

[0083] The first treatment device 2 may include a first drum 25, and the second treatment device 3 may include a second drum 35. The first drum 25 and the second drum 35 may be provided to be rotatable.

[0084] The first treatment device 2 may include a first driver that provides rotational power to the first drum 25, and a first laundry opening communicating with the first drum 25 may be formed in the first cabinet 20. The first cabinet 20 may be provided with a first laundry door 22 for opening and closing the first laundry opening.

[0085] The second treatment device 3 may include a second driver that provides rotational power to the second drum 35, and a second laundry opening communicating with the second drum 35 may be formed in the second cabinet 30. The second cabinet 30 may be provided with a second laundry door 32 for opening and closing the second laundry opening.

[0086] FIG. 1 illustrates the first treatment device 2 and the second treatment device 3 of the front loader type. However, at least one of the first treatment device 2 and the second treatment device 3 may be provided as a top loader type if necessary.

[0087] Meanwhile, the first treatment device 2 and the second treatment device 3 may be a washing machine for washing laundry, a dryer for drying laundry, or a washing/-drying machine capable of both washing and drying laundry.

[0088] FIG. 1 illustrates an embodiment of the present disclosure in which the first treatment device 2 corresponds to a washing machine, and the second treatment device 3 corresponds to a dryer. The first treatment device 2 may include a tub 27 in which water is received for washing laundry, and the first drum 25 may be provided inside the tub 27. In FIG. 1, the first drum 25, the second drum 35, and the tub 27 are conceptually indicated by dotted lines.

[0089] The first treatment device 2 may further include a detergent supply that provides detergent for washing laundry, and may include a water supply that supplies water from an external water source and a drain for discharging water from the tub 27.

[0090] The second treatment device 3 may be provided with an air heater that provides high-temperature air to the inside of the second drum 35 for drying laundry. The air heater may include an air circulation path that is connected to the inside of the second drum 35 and allows air to circulate.

[0091] The first treatment device 2 may be provided to be able to wash and dry laundry, and the second treatment device 3 may also be provided to have a laundry washing function instead of laundry drying function.

[0092] For convenience of explanation, the following description will be based on the case where the first treatment device 2 can perform a laundry washing course and the second treatment device 3 can perform a laundry drying course.

[0093] The laundry treating apparatus 1 according to an embodiment of the present disclosure may include a control panel 100. The control panel 100 may include an input portion 120 and an output portion. The input portion 120 may be operated by a user to generate an input signal, and the output portion may generate various types of output signals to provide information to the user.

[0094] The control panel 100 is connected to the first treatment device 2 and the second treatment device 3 and may output information about the first treatment device 2 and the second treatment device 3 or receive instructions. Detailed description of the control panel 100 will be described later.

[0095] FIG. 2 is a side view of the laundry treating apparatus 1 according to an embodiment of the present disclosure. The second cabinet 30 may be placed on the first cabinet 20 and combined with the first cabinet 20. The first treatment device 2 and the second treatment device 3 may be manufactured separately and as-

sembled in a space where the laundry treating apparatus 1 is used, or may be assembled in advance during the production process.

[0096] As described above, the first treatment device 2 and the second treatment device 3 may be provided to share one cabinet, and in this case, both the first drum 25 and the second drum 35 may be disposed inside one cabinet.

[0097] FIG. 3 is a rear perspective view of the laundry treating apparatus 1 according to an embodiment of the present disclosure. A rear bracket, etc., for connecting the first treatment device 2 and the second treatment device 3 may be provided on the rear of the laundry treating apparatus 1.

[0098] In addition, the rear bracket may be provided with a handle that the user can hold to move the laundry treating apparatus 1. The heights and widths of the first treatment device 2 and the second treatment device 3 may be determined in various ways.

[0099] The first treatment device 2 and the second treatment device 3 may perform laundry treating courses independently or in association with each other. For example, the first treatment device 2 corresponds to a washing machine capable of washing laundry and may perform a course for washing laundry, and the second treatment device 3 corresponds to a dryer capable of drying laundry and may perform a course for drying laundry.

[0100] FIG. 4 is a conceptual diagram schematically showing a connection relationship of a controller 90 in an embodiment of the present disclosure. The laundry treating apparatus 1 may include the controller 90, and the controller 90 may include at least one of a processor, a communication portion, and a storage.

[0101] The processor is provided to perform a processing process through information calculation, etc., the communication portion is provided to enable communication using various communication methods, such as Bluetooth and Wi-Fi, and the storage may be provided to store information.

[0102] The controller 90 may be connected to the first treatment device 2 and the second treatment device 3. In addition, the controller 90 may be connected to a screen output portion 110 of the control panel 100 to control the screen output portion 110.

[0103] The controller 90 may be provided in at least one of the first treatment device 2, the second treatment device 3, and the screen output portion 110. A plurality of controllers 90 may be provided and respectively disposed in the first treatment device 2, the second treatment device 3, and the screen output portion 110.

[0104] For example, the first treatment device 2 may include a first sub-controller 90 involved in the operation of the first treatment device 2, the second treatment device 3 may include a second sub-controller 90 involved in the operation of the second treatment device 3, and the screen output portion 110 may include a screen controller 90 involved in the operation of the screen output portion 110.

[0105] The aforementioned controller 90 may be connected to the first sub-controller 90, the second sub-controller 90, and the screen controller 90 to transmit a user's instruction or receive information. In addition, any one of the first sub-controller 90, the second sub-controller 90, and the screen controller 90 may be configured to correspond to the aforementioned controller 90.

[0106] FIG. 5 illustrates the control panel 100 according to an embodiment of the present disclosure. The control panel 100 will be described in detail as follows.

[0107] The control panel 100 may include the input portion 120 and the output portion described above. The output portion may output various types of information such as auditory information and visual information to provide the same to the user.

[0108] For example, the output portion may include a speaker that outputs sound for providing information or the screen output portion 110 that outputs a screen, and the screen output portion 110 may include a display that outputs a screen for image display.

[0109] The input portion 120 may generate input signals according to user operation, and the input signals may be transmitted to the controller 90 and converted into various command signals. The input portion 120 may include a button portion 140 having various buttons that generate input signals according to user operation, and the buttons may be provided as various types such as a mechanical type and a touch type.

[0110] In addition, the input portion 120 may include a touch input portion 130. The touch input portion 130 may be provided in the screen output portion 110. The touch input portion 130 may be disposed such that at least a part thereof overlaps the display of the screen output portion 110 and may be provided to detect a touch signal of the user applied to the screen output on the display.

[0111] That is, in one embodiment of the present disclosure, the screen output portion 110 may be provided to detect a touch signal generated by the user for the screen.

[0112] In one embodiment of the present disclosure, the input portion 120 may include a power button, and the power button may include a first power button 141 for the first treatment device 2 and a second power button 142 for the second treatment device 3.

[0113] In addition, the input portion 120 may include a switching button 147. The switching button 147 may be used to switch a target whose information is displayed through the screen output portion 110 from the first treatment device 2 to the second treatment device 3, and from the second treatment device 3 to the first treatment device 2.

[0114] In addition, the button portion 140 may include an additional function button 146. The additional function button 146 may be used to output an additional function screen that displays additional functions for overall settings for the use of the laundry treating apparatus 1 or additional settings for courses.

[0115] In addition, the button portion 140 may include

an execution button. When the execution button is operated in a course setting process P2, the currently set course can be performed. The execution button may include a first execution button 143 for starting the course of the first treatment device 2 and a second execution button 144 for starting the course of the second treatment device 3.

[0116] The touch input portion 130 may be provided in the form of a panel that detects a user's touch and may be included in the display. Accordingly, when the user touches an image or the like displayed on the screen output portion 110, a touch signal for the corresponding location can be transmitted to the controller 90 by the touch input portion 130, and the controller 90 can perform a control operation based on the touch signal.

[0117] An indicator area C203 may be defined on the screen of the screen output portion 110. Various indicators C204 indicating information on currently set options or status information may be displayed in the indicator area C203.

[0118] In addition, the screen output portion 110 may display a device indicator C204 indicating a device corresponding to the currently output screen between the first treatment device 2 and the second treatment device 3 on a first screen and a second screen. FIG. 5 illustrates a course setting screen C200 on which the device indicator C204 is displayed.

[0119] In one embodiment of the present disclosure, the screen output portion 110 may output a first screen displaying information on the first treatment device 2 and a second screen displaying information on the second treatment device 3. Accordingly, in one embodiment of the present disclosure, it is possible to effectively output information about multiple treatment devices through one display.

[0120] The device indicator C204 may indicate whether the currently output screen is the first screen or the second screen. The user may ascertain whether the target of the current command, that is, the target of information displayed on the screen, is the first treatment device 2 or the second treatment device 3 through the device indicator C204 on the screen.

[0121] The device indicator C204 may be displayed in various forms. FIG. 5 illustrates the device indicator C204 in the shape of an icon having different colors on one side and the other side of a square according to an embodiment of the present disclosure.

[0122] The device indicator C204 may differentiate a state indicating the first treatment device 2 from a state indicating the second treatment device 3 by changing the color thereof while maintaining the shape thereof.

[0123] Specifically, in one embodiment of the present disclosure, the shape of the device indicator C204 does not change even in the case of switching between the first screen and the second screen, and the device indicator C204 may be displayed to distinguish the first treatment device 2 and the second treatment device 3 only through color change.

[0124] For example, the device indicator C204 may have a shape indicative of each of the first treatment device 2 and the second treatment device 3, and the image may be changed such that the treatment device that is the subject of the screen currently output from the screen output portion 110 has a first color, and the other device has a second color.

[0125] Accordingly, by confirming the location of the first color in the device indicator C204 currently displayed on the screen, the user can easily ascertain whether the screen currently output from the screen output portion 110 is the first screen indicating information on the first treatment device 2 or the second screen indicating information on the second treatment device 3.

[0126] FIG. 6 conceptually illustrates operation processes of the laundry treating apparatus 1 according to an embodiment of the present disclosure and screens of the screen output portion 110 according thereto. The operation processes may be performed individually in each of the first treatment device 2 and the second treatment device 3.

[0127] First, when the laundry treating apparatus 1 is powered on through the power button, the controller 90 may perform a start process P1 in which a normal state of various components is determined and preparation for performing a course is performed, and the screen output portion 110 may output a start screen C100 to inform the user of the start process P1.

[0128] After the start process P1 is completed, the controller 90 may perform a course setting process P2. The controller 90 may store a plurality of courses for treating laundry in advance, and the user may select one of the plurality of courses in the course setting process P2.

[0129] In addition, various options for courses may be adjusted by the user in the course setting process P2. The screen output portion 110 may output a course setting screen C200 for providing information on course setting in the course setting process P2.

[0130] When the above-described execution button is operated in the course setting process P2, the controller 90 may perform a course progress process P3 in which a course for treating laundry is performed. In the course progress process P3, the controller 90 may perform a course determined through the course setting process P2, and the screen output portion 110 may output a course progress screen C300 indicating the progress status of the determined course.

[0131] FIG. 7 illustrates the start screen C100 output from the screen output portion 110 according to an embodiment of the present disclosure. The start screen C100 may include an image for notifying the user of power supply or may include general information for course execution.

[0132] The screen illustrated in FIG. 7 corresponds to a welcome screen C110 that notifies the user of power supply to the laundry treating apparatus 1 in the start screen C100. The welcome screen C110 may be output

when power is applied to the first treatment device 2 and the second treatment device 3.

[0133] The welcome screen C110 may be a screen output from the screen output portion 110 when power is applied to the laundry treating apparatus 1 or for the first time. The welcome screen C110 may include various types of text and images to create a sense of intimacy with the user or to notify the user of power supply.

[0134] FIG. 8 illustrates the course setting screen C200. The course setting screen C200 may display the name of a course currently selected among a plurality of courses, and may display option setting information on the course. The controller 90 may store a plurality of courses in advance for each of the first treatment device 2 and the second treatment device 3.

[0135] The course setting screen C200 may include a course name area C201 in which the name of a course to be selected is displayed, and may include a suggestion area C210 in which a course description phrase for explaining the course displayed in the course name area C201 is displayed.

[0136] In addition, the course setting screen C200 may include an indicator area C203. Various indicators C204 indicating information or status information of currently set options may be displayed in the indicator area C203.

[0137] In addition, the course setting screen C200 may include an option information area C202 indicating current option information about the course displayed in the course name area C201. The option information area C202 may display setting values for one or more options.

[0138] However, the course setting screen C200 according to an embodiment of the present disclosure does not necessarily have to include all of the course name area C201, the suggestion area C210, the indicator area C203, and the option information area C202, and the arrangement of each area may also vary as needed.

[0139] FIG. 9 illustrates the course progress screen C300. The course progress screen C300 may define a course name area C201 that displays a course in progress, a time guide area C310 that indicates the remaining time until the course is completed, a status display area C320 that indicates the current status of the course, a progress bar C330 that displays the current process in the entire course in the form of an image, and the indicator area C203 and option information area C202 described above.

[0140] FIG. 10 illustrates a first course setting screen C207 and a second course setting screen C208 according to an embodiment of the present disclosure. FIG. 10(a) illustrates the first course setting screen C207 related to the first treatment device 2, and FIG. 10(b) illustrates the second course setting screen C208 related to the second treatment device 3. The first screen and the second screen according to an embodiment of the present disclosure will be described with reference to FIG. 10.

[0141] First, the laundry treating apparatus 1 according to an embodiment of the present disclosure may include

the screen output portion 110 connected to the first treatment device 2 and the second treatment device 3. In addition, the first treatment device 2 and the second treatment device 3 may be provided to perform independent laundry treatment courses.

[0142] Accordingly, the first treatment device 2 and the second treatment device 3 need to output screens for providing information, and therefore, the screen output from the screen output portion 110 may be the first screen providing information about the first treatment device 2 or the second screen providing information about the second treatment device 3.

[0143] That is, in the present disclosure, the first screen means a screen providing information about the first treatment device 2, and the second screen means a screen providing information about the second treatment device 3.

[0144] Meanwhile, the first treatment device 2 and the second treatment device 3 may perform respective course setting processes P2 thereof. That is, the controller 90 may independently perform the course setting process P2 for the first treatment device 2 and the course setting process P2 for the second treatment device 3.

[0145] The screen output portion 110 may output the first course setting screen C207 to indicate the course setting process P2 of the first treatment device 2, and the first course setting screen C207 may be included in the first screen.

[0146] In addition, the screen output portion 110 may output the second course setting screen C208 to indicate the course setting process P2 of the second treatment device 3, and the second course setting screen C208 may be included in the second screen.

[0147] The first course setting screen C207 provides information on the course of treating laundry performed in the first treatment device 2. For example, the first course setting screen C207 may display the name of the course for washing laundry or options for the course.

[0148] The second course setting screen C208 may display the name of a course for drying laundry or options. That is, the courses displayed on the first course setting screen C207 and the second course setting screen C208 may correspond to different laundry treatment processes, and accordingly, the options displayed in the option information areas C202 of the first course setting screen C207 and the second course setting screen C208 may also be different.

[0149] FIG. 11 illustrates a first course progress screen C307 and a second course progress screen C308 output from the screen output portion 110 in an embodiment of the present disclosure. FIG. 11(a) illustrates the first course progress screen C307 indicating course progress information of the first treatment device 2, and FIG. 11(b) illustrates the second course progress screen C308 indicating course progress information of the second treatment device 3.

[0150] In an embodiment of the present disclosure, the first treatment device 2 may be provided to perform a first

course for treating laundry, and the second treatment device 3 may be provided to perform a second course for treating laundry.

[0151] The first course may be a course for washing laundry, and the second course may be a course for drying laundry. The controller 90 may store a plurality of first courses to be performed in the first treatment device 2, and may store a plurality of second courses to be performed in the second treatment device 3.

[0152] The screen output portion 110 may output the first course progress screen C307 indicating progress information of the first course, and may output the second course progress screen C308 indicating progress information of the second course.

[0153] According to an embodiment of the present disclosure, all pieces of information related to the first treatment device 2 and the second treatment device 3 may be output through one screen output portion 110, and the first screen providing information on the first treatment device 2 and the second screen providing information on the second treatment device 3 may be separately output in consideration of the limited screen output area.

[0154] FIG. 12 illustrates a process in which the screen of the screen output portion 110 is switched from the first screen to the second screen in an embodiment of the present disclosure.

[0155] FIG. 12(a) illustrates the first screen for the first treatment device 2, and FIG. 12(b) illustrates the second screen for the second treatment device 3.

[0156] In an embodiment of the present disclosure, the screen output portion 110 can effectively provide information on the first treatment device 2 and the second treatment device 3 to the user through the process of switching between the first screen and the second screen.

[0157] In an embodiment of the present disclosure, the first treatment device 2 includes the first cabinet 20 and the first drum 25 provided inside the first cabinet 20 and accommodating laundry, and may perform the first course for treating the laundry accommodated in the first drum 25.

[0158] The second treatment device 3 includes the second cabinet 30 and the second drum 35 provided inside the second cabinet 30 and accommodating laundry, and may perform the second course for treating the laundry accommodated in the second drum 35.

[0159] The screen output portion 110 may be provided in at least one of the first treatment device 2 and the second treatment device 3, and may output either the first screen indicating information on the first treatment device 2 or the second screen indicating information on the second treatment device 3.

[0160] The screen output portion 110 may output a screen having a higher priority between the first screen and the second screen. That is, when output of both the first screen and the second screen is required, the screen output portion 110 may output a screen having a higher

priority between the first screen and the second screen.

[0161] The priorities of the first screen and the second screen may be set in advance in the controller 90, and may be determined according to priority conditions. For example, the priorities of the first screen and the second screen may vary depending on the state of each of the first treatment device 2 and the second treatment device 3.

[0162] In an embodiment of the present disclosure, the controller 90 may be provided in at least one of the first treatment device 2 and the second treatment device 3, may receive information from the first treatment device 2 and the second treatment device 3, and may control the screen output portion 110.

[0163] The controller 90 has a priority determination criterion set in advance for the first screen and the second screen, and the controller 90 may control the screen output portion 110 such that a screen with a higher priority between the first screen and the second screen currently required to be output is output.

[0164] As described above, the first screen for the first treatment device 2 may include various screens such as the first course setting screen C207 and the second course progress screen C308, and the second screen may include various screens such as the second course setting screen C208 and the second course progress screen C308.

[0165] In an embodiment of the present disclosure, the priorities of the first screen and the second screen are not uniformly determined in advance, and the screen output portion 110 may determine a currently output screen through priority comparison between a screen currently required to be output among a plurality of first screens and a screen currently required to be output among a plurality of second screens. The determination of priorities as described above may be performed by the controller 90.

[0166] Specifically, in an embodiment of the present disclosure, the first screen may include the first course setting screen C207 that displays setting information of the first course in the process of setting the first course.

[0167] The second screen may include the second course setting screen C208 that displays setting information of the second course in the process of setting the second course. When power is applied to the second treatment device 3 while the first course setting screen C207 is output, the screen output portion 110 may switch from the first course setting screen C207 to the second course setting screen C208.

[0168] FIG. 12 illustrates a state in which power is applied to the second treatment device 3 and thus the course setting process P2 of the second treatment device 3 is performed and the second course setting screen C208 is output while the first course setting screen C207 is output from the screen output portion 110.

[0169] Specifically, in an embodiment of the present disclosure, priorities of the first course setting screen C207 and the second course setting screen C208 may

be determined based on power-on timing or timing of entry to the course setting process P2.

[0170] First, if only one of the first treatment device 2 and the second treatment device 3 is in a power-on state, priority determination between the first screen and the second screen is not necessary, and the screen corresponding to the treatment device currently in the power-on state can be output.

[0171] That is, the screen output portion 110 can switch from the first screen to the second screen when the second treatment device 3 is powered on while the first screen is output, and vice versa.

[0172] In a state in which the course setting process P2 of one of the first treatment device 2 and the second treatment device 3 is already in progress, if the other treatment device enters the course setting process P2 after power is applied thereto, the controller 90 may control the screen output portion 110 to output the course setting screen C200 for the course setting process P2 of the other treatment device.

[0173] For example, if the second treatment device 3 enters the course setting process P2 during the course setting process P2 of the first treatment device 2, the timing at which the second treatment device 3 enters the course setting process P2 is later than that of the first treatment device 2, and thus the controller 90 can control the screen output portion 110 to output the second course setting screen C208.

[0174] Meanwhile, in output competition between the first course setting screen C207 and the second course setting screen C208, additional screen switching may not occur. For example, when both the first treatment device 2 and the second treatment device 3 are performing the course setting process P2, and one of the first course setting screen C207 and the second course setting screen C208 is output, the output state of one of the first course setting screen C207 and the second course setting screen C208 may be maintained regardless of the passage of time.

[0175] However, as described above, an embodiment of the present disclosure may further include the switching button 147 provided in at least one of the first treatment device 2 and the second treatment device 3 and operated by the user, and screen switching may be performed by the switching button 147.

[0176] For example, when the switching button 147 is operated in a state in which the first course setting screen C207 has been switched to the second course setting screen C208, the screen output portion 110 can switch the second course setting screen C208 to the first course setting screen C207.

[0177] In an embodiment of the present disclosure, the controller 90 may perform screen switching according to occurrence of an event and screen switching according to the operation of the switching button 147 as a top priority. In the present disclosure, occurrence of an event means that a state in which screen output is required occurs at the current time.

[0178] For example, entry to the course setting process P2 after power is applied to either of the first treatment device 2 and the second treatment device 3 may be understood as occurrence of an event, and the controller 90 may switch the screen of the screen output portion 110 by giving top priority to the output of the course setting screen C200 at the time of entering the course setting process P2.

[0179] As will be described later, entry into the course progress process P3 or occurrence of an error state during course progress may be understood as occurrence of an event for the controller 90.

[0180] In an embodiment of the present disclosure, switching between the first screen and the second screen according to the operation of the switching button 147 may be performed regardless of the priority, and the screen may be automatically returned by the controller 90 regardless of whether switching is performed by the switching button 147. The automatic screen return will be described later.

[0181] In an embodiment of the present disclosure, the controller 90 may treat the priorities of the first course setting screen C207 and the second course setting screen C208 as being equal to each other, and accordingly, when one of the first treatment device 2 and the second treatment device 3 enters the course setting process P2 and the course setting screen C200 for the one is output, if the other treatment device enters the course setting process P2, the screen of the screen output portion 110 can be switched to the course setting screen C200 for the other one.

[0182] FIG. 13 illustrates a screen switching process according to the priorities of the course progress screen C300 and the course setting screen C200. FIG. 13(a) illustrates the first course progress screen C307, FIG. 13(b) illustrates the second course setting screen C208 that has been switched from the first course progress screen C307, FIG. 13(c) illustrates the first course progress screen C307 that has been automatically returned from the second course setting screen C208, and FIG. 13(d) illustrates the first course progress screen C307 on which a power cutoff indicator C340 of the second treatment device 3 is displayed.

[0183] Referring to FIG. 13, in an embodiment of the present disclosure, the first screen may include the first course progress screen C307 that displays progress information of the first course, and the second screen may include the second course setting screen C208 that displays progress information of the second course.

[0184] When power is applied to the second treatment device 3 while the screen output portion 110 outputs the first course progress screen C307, the screen output portion 110 can switch the first course progress screen C307 to the second course setting screen C208.

[0185] That is, the controller 90 can determine the course setting screen C200 as the highest priority according to entry into the course setting process P2 and perform screen switching.

[0186] In an embodiment of the present disclosure, the controller 90 may determine the course progress screen C300 to have a higher priority than the course setting screen C200. Specifically, the course progress screen C300 is a screen that provides information on the course currently in progress, and thus the course progress screen C300 can be determined to have a higher priority than the course setting screen C200 that provides setting information of a course that is not yet performed.

[0187] However, in an embodiment of the present disclosure, the controller 90 may determine screen output according to occurrence of an event as the highest priority as described above, and even while the course progress screen C300 according to course progress of the first treatment device 2 is being output, if power is applied to the second treatment device 3 and the course setting process P2 starts, the controller 90 may switch the screen of the screen output portion 110 from the first course progress screen C307 to the second course setting screen C208 by giving the second course setting screen C208 the highest priority according to occurrence of the event of entering the course setting process P2.

[0188] When a first time has elapsed after the second course setting screen C208 is output during the progress of the first course, the screen output portion 110 can switch from the second course setting screen C208 to the first course progress screen C307.

[0189] Specifically, the controller 90 may determine the priority of the course progress screen C300 to be higher than that of the course setting screen C200. If the screen output due to occurrence of an event has a lower priority than the previously output screen, the controller 90 may perform automatic screen return.

[0190] For example, when the second treatment device 3 enters the course setting process P2 while the first course progress screen C307 is being output as illustrated in FIG. 13(a), the screen output portion 110 may output the second course setting screen C208 as illustrated in FIG. 13(b).

[0191] Since the second course setting screen C208 has a lower priority than the first course progress screen C307, the screen output portion 110 may return to the first course progress screen C307 from the second course setting screen C208 after the first time has elapsed from when the second course setting screen C208 is output.

[0192] That is, if the priority of the screen immediately before a screen output due to occurrence of an event is higher than that of the screen output due to the occurrence of an event, the controller 90 may perform automatic screen return when the first time has elapsed after the screen is output due to the occurrence of an event, thereby switching the screen of the screen output portion 110 to the screen immediately before the screen output due to the occurrence of an event.

[0193] The first time may be set in advance in the controller 90. The first time may be set to various values, such as 10 seconds, 1 minute, or 5 minutes, as needed. However, if the user operates the input portion 120 on the

first course setting screen C207 that is switched and output while the first course progress screen C307 is output, determination of lapse of the first time can be initialized.

[0194] As shown in FIG. 13(d), if a second time elapses after the first course progress screen C307 is output during the second course setting process, the screen output portion 110 may output the power cutoff indicator C340 that indicates power cutoff of the second treatment device 3 on the first course progress screen C307.

[0195] The power cutoff indicator C340 may be output when the first treatment device 2 or the second treatment device 3 is powered off by itself in a case where no user command, that is, no input signal, is applied to the first treatment device 2 or the second treatment device 3 for the second time.

[0196] That is, the controller 90 can perform power cutoff for the first treatment device 2 and the second treatment device 3 if there is no user command for the second time. The controller 90 can perform power cutoff and control the screen output portion 110 to output the power cutoff indicator C340 on the screen at the same time.

[0197] Power cutoff may be performed in the course setting process P2. For example, the controller 90 may perform the course setting process P2 after power is supplied to each of the first treatment device 2 and the second treatment device 3, and if there is no user command in the course setting process P2, the controller 90 may perform power cutoff to prevent power consumption.

[0198] However, since the first or second course for treating laundry is being performed in the course progress process P3, it may be natural that there is no user command during the second time, and therefore, power cutoff may not be performed during the course progress process P3.

[0199] The power cutoff indicator C340 may be displayed in a modal dialog form on the first course progress screen C307. For example, the power cutoff indicator C340 of the second treatment device 3 may be displayed in a modal dialog form on the first course progress screen C307.

[0200] The second time may be set in advance in the controller 90, and whether the second time has elapsed may be determined after a user command is generated. The user can conveniently confirm that power of the first treatment device 2 or the second treatment device 3 is cut off through the power cutoff indicator C340 displayed on the screen output portion 110.

[0201] FIG. 14 illustrates a situation in which a simultaneous screen C400 is output through the screen output portion 110 in an embodiment of the present disclosure. FIG. 14(a) illustrates the first course progress screen C307, FIG. 14(b) illustrates the second course setting screen C208 output by switching from the first course progress screen C307 by the screen output portion 110, FIG. 14(c) illustrates the second course progress screen C308 output after the second course setting screen C208

from the screen output portion 110, and FIG. 14(d) illustrates the simultaneous screen C400 that simultaneously displays information on the first course and the second course.

[0202] In an embodiment of the present disclosure, the second screen may include the second course progress screen C308 that displays progress information of the second course, and the screen output portion 110 may output the second course progress screen C308 when the second course is performed while the first course is in progress.

[0203] Specifically, as described above, the controller 90 can treat the priorities of the first course setting screen C207 and the second course setting screen C208 as being equal to each other, and in the same manner, can treat the priorities of the first course progress screen C307 and the second course progress screen C308 as being equal to each other.

[0204] That is, the controller 90 may not perform automatic screen return between the first course progress screen C307 and the second course progress screen C308 in a situation in which the course progress process P3 of the first course and the course progress process P3 of the second course are carried out simultaneously.

[0205] Meanwhile, as described above, a screen required to be output due to occurrence of an event has the highest priority and can be output through the screen output portion 110, and accordingly, the course progress screen C300 for a course that is carried out later between the first course and the second course can be displayed on the screen output portion 110.

[0206] The above situation will be described with reference to FIG. 14.

[0207] First, when the first course is performed in the first treatment device 2 as shown in FIG. 14(a), the screen output portion 110 may output the first course progress screen C307. When power is applied to the second treatment device 3 while the first course is in progress, the controller 90 performs the course setting process P2 of the second treatment device 3, and accordingly, the screen of the screen output portion 110 may be switched from the first course progress screen C307 to the second course setting screen C208 as shown in FIG. 14(b).

[0208] When the user instructs execution of the second course through the second course setting screen C208 in a state in which the first course is in progress, the controller 90 may perform the second course in the second treatment device 3 while the first course is in progress in the first treatment device 2. As shown in FIG. 14(c), the second course progress screen C308 may be output on the screen output portion 110 due to the progress of the second course.

[0209] Unless the first course progress screen C307 is output due to operation of the switching button 147 or for other reasons, the screen of the screen output portion 110 may not be switched from the second course progress screen C308 to the first course progress screen C307 due to automatic screen return.

[0210] In an embodiment of the present disclosure, the screen output portion 110 may output the simultaneous screen C400 in which information on the first treatment device 2 and information on the second treatment device 3 may be displayed together as needed. That is, in an embodiment of the present disclosure, the screen output portion 110 may be provided to output the first screen, the second screen, or the simultaneous screen C400 in which information on the first treatment device 2 and information on the second treatment device 3 are displayed together.

[0211] In other words, a priority determination criterion for the first screen, the second screen, and the simultaneous screen C400 may be set in advance in the controller 90, and the controller 90 may control the screen output portion 110 such that the simultaneous screen C400 is output when the priority of the first screen is the same as that of the second screen.

[0212] The simultaneous screen C400 may be output when both the first treatment device 2 and the second treatment device 3 are in the course progress process P3. For example, if at least one of the first treatment device 2 and the second treatment device 3 is in the course setting process P2, the simultaneous screen C400 may not be output, and as described above, the screen for which an output request is generated most recently between the first course setting screen C207 and the second course setting screen C208 may be output to the screen output portion 110.

[0213] FIG. 14(d) illustrates the simultaneous screen C400 output to the screen output portion 110 when both the first course and the second course are in progress. In an embodiment of the present disclosure, the screen output portion 110 may switch from the second course progress screen C308 to the simultaneous screen C400 when a third time has elapsed after the second course progress screen C308 is output during the progress of the first course.

[0214] That is, the controller 90 may control the screen output portion 110 such that the simultaneous screen C400 is output instead of the second course progress screen C308 when the third time has elapsed after the second course progress screen C308 is output during the progress of the first course.

[0215] In an embodiment of the present disclosure, the screen output portion 110 may output the simultaneous screen C400 when both the first treatment device 2 and the second treatment device 3 are in the course progress process P3. The third time may be determined in various ways and may be preset in the controller 90.

[0216] The screen output portion 110 may not perform automatic screen switching between the first course progress screen C307 and the second course progress screen C308 as described above before the third time has elapsed.

[0217] The simultaneous screen C400 may include information on the first treatment device 2 and information on the second treatment device 3. That is, the si-

multaneous screen C400 may display progress information of the first course and progress information of the second course together.

[0218] FIG. 14(d) illustrates that progress information of the first course is displayed on a part of the simultaneous screen C400 and progress information of the second course is displayed on the remaining part of the simultaneous screen C400.

[0219] In an embodiment of the present disclosure, when the first and second courses are in progress, progress information of each course is determined to be of high importance, and accordingly, the simultaneous screen C400 is output such that the progress information of the first course and the progress information of the second course can be displayed together to provide convenience to the user.

[0220] FIG. 15 illustrates the second course progress screen C308 that is switched from the simultaneous screen C400 and output according to an embodiment of the present disclosure. FIG. 15(a) illustrates the simultaneous screen C400 output from the screen output portion 110 during the progress of the first and second courses, and FIG. 15(b) illustrates the second course progress screen C308 that is output from the screen output portion 110 instead of the simultaneous screen C400.

[0221] One embodiment of the present disclosure may include the input portion 120 as described above, and the input portion 120 is provided in at least one of the first treatment device 2, the second treatment device 3, and the screen output portion 110, and may be operated by the user to generate an input signal.

[0222] The simultaneous screen C400 includes a first area C401 where information on the first treatment device 2 is displayed and a second area C402 where information on the second treatment device 3 is displayed, and when the second area C402 is selected according to the input signal which the simultaneous screen C400 is output, the screen output portion 110 may switch from the simultaneous screen C400 to the second course progress screen C308.

[0223] Specifically, the simultaneous screen C400 may include the first area C401 and the second area C402. The first area C401 may display progress information of the first course, and the second area C402 may display progress information of the second course.

[0224] The first area C401 and the second area C402 may be displayed such that they can be selected by the user. The user may select the first area C401 or the second area C402 through the button portion 140 or the touch input portion 130, and if the controller 90 determines that the second area C402 has been selected by the user, the controller 90 may control the screen output portion 110 such that the second course setting screen C208 on which progress information of the second course is displayed is output.

[0225] Even if the user does not select the first area C401 and the second area C402, the user can output any

one of the first course progress screen C307 and the second course progress screen C308 through the screen output portion 110 by using the aforementioned switching button 147.

[0226] For example, if the switching button 147 is operated while the simultaneous screen C400 is output, the screen output portion 110 may switch from the simultaneous screen C400 to the first course progress screen C307 or the second course progress screen C308.

[0227] If the switching button 147 is operated again while one of the first course progress screen C307 and the second course progress screen C308 is output, the screen output portion 110 may output the remaining one of the first course progress screen C307 and the second course progress screen C308.

[0228] FIG. 16 illustrates a process of outputting an error notification screen in an embodiment of the present disclosure. FIG. 16(a) illustrates the simultaneous screen C400, FIG. 16(b) illustrates the error notification screen that can be output instead of the simultaneous screen C400, and FIG. 16(c) illustrates the simultaneous screen C400 that displays an error state.

[0229] In an embodiment of the present disclosure, the screen output portion 110 may output the error notification screen. The error notification screen may display an error state occurring in a treatment device during the progress of a course, and the error state refers to a situation in which an error state is detected regarding the progress of a course, such as an error state of the driver, detection of an open laundry door, and poor water supply and drainage.

[0230] The error notification screen may include a first error notification screen C410 and a second error notification screen. The first error notification screen C410 displays an error state of the first treatment device 2, and the second error notification screen displays an error state of the second treatment device 3.

[0231] That is, in an embodiment of the present disclosure, the first screen displaying information on the first treatment device 2 may include the first error notification screen C410, and the second screen displaying information on the second treatment device 3 may include the second error notification screen.

[0232] In an embodiment of the present disclosure, if an error state of the first course occurs during the output of the simultaneous screen C400, the screen output portion 110 may be switched from the simultaneous screen C400 to the first error notification screen C410.

[0233] That is, upon determining that an error state of the first course or the second course occurs during the output of the simultaneous screen C400, the controller 90 can control the screen output portion 110 such that the screen of the screen output portion 110 is switched from the simultaneous screen C400 as shown in FIG. 16(a) to the first error notification screen C410 or the second error notification screen as shown in FIG. 16(b).

[0234] In an embodiment of the present disclosure, the error notification screen may have the same priority as

the course progress screen C300. However, when an error state is detected, the controller 90 may control the screen output portion 110 to output the error notification screen instead of the simultaneous screen C400 or the course progress screen C300 by giving the error notification screen the highest priority according to occurrence of an event.

[0235] Information related to an error state may correspond to the most important information to the user at the time of occurrence, and therefore, the controller 90 may control the screen output portion 110 to output the error notification screen with priority over the course progress screen C300 or the simultaneous screen C400.

[0236] In an embodiment of the present disclosure, if the output state of the first error notification screen C410 continues for a fourth time, the screen output portion 110 may switch from the first error notification screen S410 to the simultaneous screen C400 in which an error state of the first treatment device 2 and the progress state of the second course are displayed together.

[0237] Specifically, when the fourth time has elapsed in a state in which the first error notification screen C410 is output as shown in FIG. 16(b), the controller 90 may control the screen output portion 110 to output the simultaneous screen C400 as shown in FIG. 16(c) such that the progress state of the second course can be provided to the user and, simultaneously, the user can be informed of the error state of the first treatment device 2.

[0238] This process is performed in the same manner even in a situation where the second error notification screen is displayed instead of the first error notification screen C410. The simultaneous screen C400 may display the error state in an information display area of the treatment device corresponding to the error state.

[0239] In FIG. 16(c), the first treatment device 2 is in an error state, and thus the error state is displayed in the first area C401 of the simultaneous screen C400, and progress information of the second course is displayed in the second area C402.

[0240] According to an embodiment of the present disclosure, the progress information of the first course and the progress information of the second course can be displayed simultaneously on one screen through the simultaneous screen C400, and furthermore, an error state and progress information of a course can be displayed together through the simultaneous screen C400.

[0241] FIG. 17 illustrates a process in which the error notification screen is re-output by switching from the simultaneous screen C400 according to an embodiment of the present disclosure. FIG. 17(a) illustrates the simultaneous screen C400 in which an error state is displayed in the first area C401, FIG. 17(b) illustrates the first error notification screen C410 in which the first area C401 of the simultaneous screen C400 is selected and output, and FIG. 17(c) illustrates a first course stop screen C420 in which a confirmation area C411 for the first error notification screen C410 is selected and output.

[0242] Referring to FIG. 17, in an embodiment of the

present disclosure, the screen output portion 110 may switch from the simultaneous screen C400 to the first error notification screen C410 when the first area C401 is selected, and may switch from the simultaneous screen C400 to the second course progress screen C308 when the second area C402 is selected.

[0243] As described above, when the first area C401 or the second area C402 of the simultaneous screen C400 is selected, the controller 90 may control the screen output portion 110 to output a screen corresponding to each area. For example, when the first area C401 is selected, the screen output portion 110 may output the first course progress screen C307, and when the second area C402 is selected, the screen output portion 110 may output the second course progress screen C308.

[0244] When an error state is displayed in any one of the first area C401 and the second area C402 as shown in FIG. 17(a), if the area in which the error state is displayed is selected, the screen output portion 110 may output the error notification screen indicating the error state as shown in FIG. 17(b).

[0245] The user can output the error notification screen by selecting the area in which the error state is displayed on the simultaneous screen C400 to check information on the error state in detail.

[0246] The error notification screen may include the confirmation area C411 that can be selected based on the input signal. The first screen may further include a first course stop screen C420 that indicates that the first course is stopped, and the second screen may further include a second course stop screen that indicates that the second course is stopped.

[0247] When the confirmation area C411 of the first error notification screen C410 is selected, the screen output portion 110 may be switched from the first error notification screen C410 to the first course stop screen C420.

[0248] Specifically, when an error state occurs during the progress of a course, the controller 90 may switch the course to a stop state. For example, when an error state occurs in the first treatment device 2 in a state in which both the first course and the second course are in progress, the first course can be switched to a stop state and the second course can be normally performed.

[0249] The error notification screen may include the confirmation area C411. The confirmation area C411 may be displayed such that it can be selected on the error notification screen. When the confirmation area C411 is selected, the controller 90 may control the screen output portion 110 to output the course stop screen of the corresponding treatment device.

[0250] For example, in a state in which the first error notification screen C410 for the first treatment device 2 is output as shown in FIG. 17(b), the user may select the confirmation area C411 after checking information about the error state, and when the confirmation area C411 of the first error notification screen C410 is selected, the controller 90 may control the screen output portion 110 to

output the first course stop screen C420 indicating a state in which the first course is stopped.

[0251] Accordingly, the user can conveniently check the treatment device in which an error state has occurred during the process of using a plurality of treatment devices, and can conveniently move to the course stop screen of the treatment device in which an error state has occurred by selecting the confirmation area C411 of the error notification screen.

[0252] FIG. 18 illustrates a flowchart showing a method of controlling the laundry treating apparatus 1 according to an embodiment of the present disclosure. Hereinafter, the method of controlling the laundry treating apparatus 1 according to an embodiment of the present disclosure will be described with reference to FIG. 18, and redundant description of the laundry treating apparatus 1 will be omitted as much as possible.

[0253] First, in an embodiment of the present disclosure, the laundry treating apparatus 1 may include the first treatment device 2 including the first cabinet 20 and the first drum 25 and performing a first course for treating laundry, the second treatment device 3 including the second cabinet 30 and the second drum 35 and performing a second course for treating laundry, and the screen output portion 110 provided in at least one of the first treatment device 2 and the second treatment device 3 and outputting a screen.

[0254] The method of controlling the laundry treating apparatus 1 according to an embodiment of the present disclosure includes a single screen output step S200. In the single screen output step S200, the screen output portion 110 may output a screen having a higher priority between a first screen on which information on the first treatment device 2 is displayed and a second screen on which information on the second treatment device 3 is displayed.

[0255] Accordingly, one embodiment of the present disclosure can effectively provide information on the first treatment device 2 and the second treatment device 3 to the user in order of priority through one screen output portion 110.

[0256] The method of controlling the laundry treating apparatus 1 according to an embodiment of the present disclosure may include a priority determination step S100. In the priority determination step S100 prior to the single screen output step S200, the controller 90 that controls the screen output portion 110 may determine priorities of the first screen and the second screen according to a preset priority determination criterion.

[0257] In the single screen output step S200, the controller 90 may control the screen output portion 110 to output a screen having a higher priority determined in the priority determination step S100.

[0258] The priorities of the first screen and the second screen are not determined uniformly, and the priorities may be determined by the controller 90 in accordance with the situation, and thus appropriate screen output is possible.

[0259] In the priority determination step S100, the controller 90 may determine a screen for which an output request was most recently generated between the first screen and the second screen as having a higher priority.

[0260] That is, the controller 90 may control the screen output portion 110 such that the screen for which an event most recently occurs is output as the highest priority. However, as described above, the screen can be switched by the switching button 147, automatic screen return according to the lapse of a preset time, or the like.

[0261] The method of controlling the laundry treating apparatus 1 according to an embodiment of the present disclosure may include a screen switching determination step S300. In the screen switching determination step S300 that may be performed after the single screen output step S200, the controller 90 may determine whether a switching condition for switching from one of the first screen and the second screen output from the screen output portion 110 to the other is satisfied.

[0262] The screen switching condition may include whether the aforementioned switching button 147 is operated, whether output of the simultaneous screen C400 is required, and whether the controller 90 performs automatic screen return.

[0263] In the screen switching determination step S300, if the first course and the second course correspond to setting processes, and the first course setup screen C207 indicating the setting process of the first course among the first screens is output from the screen output portion 110, the controller 90 may determine that the switching condition is not satisfied.

[0264] That is, the controller 90 may regard the first course setup screen C207 and second course setting as having equal priorities and may not perform automatic screen return.

[0265] In the screen switching determination step S300, if the first course is in progress, the second course corresponds to the setting process, and the second course setting screen C208 indicating the setting process of the second course among the second screens is output on the screen output portion 110, the controller 90 may determine that the switching condition is satisfied.

[0266] That is, the controller 90 may determine that the priority of the course progress screen C300 is higher than that of the course setting screen C200, and accordingly, determine that the switching condition is satisfied in a situation in which the second course setting screen C208 is output on the screen output portion 110 while the first course is in progress, and control the screen output portion 110 such that the first course progress screen C307 is output on the screen output portion 110 instead of the second course setting screen C208.

[0267] In the screen switching determination step S300, if the first course and the second course are each in progress and the first course progress screen C307 indicating the progress state of the first course among the first screens is output from the screen output portion 110, the controller 90 may determine that the switching con-

dition is satisfied.

[0268] In addition, in the screen switching determination step S300, if the first course is in progress, the second course is in an error state during progress, and the screen output portion 110 outputs the second error notification screen indicating the error state of the second course among the second screens, the controller 90 may determine that the switching condition is satisfied.

[0269] Further, the method of controlling the laundry treating apparatus 1 according to an embodiment of the present disclosure may include a simultaneous screen determination step S400. In the simultaneous screen determination step S400, if it is determined that the switching condition is satisfied in the screen switching determination step S300, the controller 90 may determine whether the output condition for the simultaneous screen C400 in which information on the first treatment device 2 and information on the second treatment device 3 are displayed together is satisfied.

[0270] In the simultaneous screen determination step S400, if the first course and the second course are each in progress, or at least one of the first course and the second course is in an error state and the other is in progress, the controller 90 may determine that the output condition for the simultaneous screen C400 is satisfied.

[0271] The method of controlling the laundry treating apparatus according to an embodiment of the present disclosure may include a simultaneous screen switching step S500 and a single screen switching step S600.

[0272] Upon determining that the output condition for the simultaneous screen C400 is satisfied in the simultaneous screen determination step S400, the controller 90 may control the screen output portion 110 such that the screen of the screen output portion 110 is switched from the first screen or the second screen to the simultaneous screen C400 in the simultaneous screen switching step S500.

[0273] In addition, upon determining that the output condition for the simultaneous screen C400 is not satisfied in the simultaneous screen determination step S400, the controller 90 may control the screen output portion 110 such that switching between the first screen and the second screen occurs in the single screen switching step S600.

[0274] While the present disclosure has been illustrated and described with respect to specific embodiments thereof, it will be apparent to those skilled in the art that the present disclosure may be improved and modified in various manners without departing from the technical spirit of the disclosure as defined by the following claims.

Claims

1. A laundry treating apparatus, comprising:

a first treatment device including a first cabinet

- and a first drum provided inside the first cabinet and configured to accommodate laundry and configured to perform a first course for treating the laundry accommodated in the first drum;
 a second treatment device including a second cabinet and a second drum provided inside the second cabinet and configured to accommodate laundry and configured to perform a second course for treating the laundry accommodated in the second drum; and
 a screen output portion provided in at least one of the first treatment device and the second treatment device and configured to output one of a first screen displaying information on the first treatment device and a second screen displaying information on the second treatment device, wherein the screen output portion outputs a screen having a higher priority between the first screen and the second screen.
2. The laundry treating apparatus of claim 1, further comprising a controller provided in at least one of the first treatment device and the second treatment device, receiving information from the first treatment device and the second treatment device, and controlling the screen output portion, wherein a priority determination criterion for the first screen and the second screen is set in advance in the controller, and the controller controls the screen output portion such that a screen having a higher priority between the first screen and the second screen currently required to be output is output.
 3. The laundry treating apparatus of claim 1, wherein the first screen includes a first course setting screen displaying setting information of the first course in a setting process of the first course,
 the second screen includes a second course setting screen displaying setting information of the second course in a setting process of the second course, and
 when power is applied to the second treatment device during output of the first course setting screen, the screen output portion switches from the first course setting screen to the second course setting screen.
 4. The laundry treating apparatus of claim 3, further comprising a switching button provided on at least one of the first treatment device and the second treatment device and operated by a user, wherein, when the switching button is operated in a state in which the first course setting screen has been switched to the second course setting screen, the screen output portion switches from the second course setting screen to the first course setting screen.
 5. The laundry treating apparatus of claim 1, wherein the first screen includes a first course progress screen displaying progress information of the first course, and the second screen includes a second course setting screen displaying setting information of the second course in a setting process of the second course, and
 wherein, when power is applied to the second treatment device while the first course progress screen is being output from the screen output portion, the screen output portion switches from the first course progress screen to the second course setting screen.
 6. The laundry treating apparatus of claim 5, wherein, when a first time has passed after the second course setting screen is output during progress of the first course, the screen output portion switches from the second course setting screen to the first course progress screen.
 7. The laundry treating apparatus of claim 6, wherein, when a second time has elapsed after the first course progress screen is output in the setting process of the second course, the screen output portion outputs a power cutoff indicator indicating power cutoff of the second treatment device on the first course progress screen.
 8. The laundry treating apparatus of claim 7, wherein the power cutoff indicator is output in a modal dialog form on the first course progress screen.
 9. The laundry treating apparatus of claim 5, wherein the second screen includes a second course progress screen displaying progress information of the second course, and
 wherein the screen output portion outputs the second course progress screen when the second course is in progress during progress of the first course.
 10. The laundry treating apparatus of claim 1, wherein the screen output portion is provided to output the first screen, the second screen, or a simultaneous screen in which information on the first treatment device and information on the second treatment device are displayed together.
 11. The laundry treating apparatus of claim 10, further comprising a controller provided in at least one of the first treatment device and the second treatment device to control the screen output portion,
 wherein a priority determination criterion for the first screen, the second screen, and the simultaneous screen is set in advance in the controller, and

- wherein the controller controls the screen output portion such that the simultaneous screen is output when priorities of the first screen and the second screen according to the priority determination criterion are the same.
12. The laundry treating apparatus of claim 10, wherein the second screen includes a second course progress screen displaying progress information of the second course, and
 wherein, when a third time has elapsed after the second course progress screen is output during progress of the first course, the screen output portion switches from the second course progress screen to the simultaneous screen.
13. The laundry treating apparatus of claim 12, further comprising an input portion provided in at least one of the first treatment device, the second treatment device, and the screen output portion and operated by a user to generate an input signal,
 wherein the simultaneous screen includes a first area in which information on the first treatment device is displayed and a second area in which information on the second treatment device is displayed, and
 when the second area is selected according to the input signal while the simultaneous screen is output, the screen output portion switches from the simultaneous screen to the second course progress screen.
14. The laundry treating apparatus of claim 12, further comprising a switching button provided on at least one of the first treatment device and the second treatment device and operated by a user,
 wherein the first screen includes a first course progress screen displaying progress information of the first course, and
 when the switching button is operated while the simultaneous screen is output, the screen output portion switches from the simultaneous screen to the first course progress screen or the second course progress screen.
15. The laundry treating apparatus of claim 12, wherein the first screen includes a first error notification screen displaying an error state during the progress of the first course, and
 when an error state of the first course occurs while the simultaneous screen is output, the screen output portion switches from the simultaneous screen to the first error notification screen.
16. The laundry treating apparatus of claim 15, further comprising an input portion provided in at least one of

the first treatment device, the second treatment device, and the screen output portion and operated by a user to generate an input signal,

- wherein the first error notification screen includes a confirmation area selectable based on the input signal,
 the first screen further includes a first course stop screen indicating that the first course is stopped, and
 when the confirmation area of the first error notification screen is selected, the screen output portion switches from the first error notification screen to the first course stop screen.
17. The laundry treating apparatus of claim 15, wherein, when an output state of the first error notification screen continues for a fourth time, the screen output portion outputs the simultaneous screen in which an error state of the first treatment device and a progress state of the second course are displayed together.
18. The laundry treating apparatus of claim 17, further comprising an input portion provided in at least one of the first treatment device, the second treatment device, and the screen output portion and operated by a user to generate an input signal,
 wherein the simultaneous screen includes a first area in which an error state of the first treatment device is displayed and a second area in which information on the second treatment device is displayed, and
 wherein the screen output portion switches from the simultaneous screen to the first error notification screen when the first area is selected and switches from the simultaneous screen to the second course progress screen when the second area is selected.
19. A laundry treating apparatus comprising:
 a first treatment device including a first cabinet and a first drum provided inside the first cabinet and accommodating laundry and provided to perform a first course for treating the laundry accommodated in the first drum;
 a second treatment device including a second cabinet and a second drum provided inside the second cabinet and accommodating laundry and provided to perform a second course for treating the laundry accommodated in the second drum; and
 a screen output portion provided in at least one of the first treatment device and the second treatment device and arranged to output one of a first screen displaying information on the

- first treatment device and a second screen displaying information on the second treatment device,
wherein the screen output portion switches from the first screen to the second screen when power is applied to the second treatment device during output of the first screen.
20. The laundry treating apparatus of claim 19, wherein the screen output portion displays a device indicator indicating a device corresponding to a currently output screen between the first treatment device and the second treatment device on the first screen and the second screen.
21. The laundry treating apparatus of claim 20, wherein the device indicator differentiates a state indicating the first treatment device from a state indicating the second treatment device by changing a color of the device indicator while maintaining a shape of the device indicator.
22. A method of controlling a laundry treating apparatus comprising a first treatment device including a first cabinet and a first drum and performing a first course for treating laundry; a second treatment device including a second cabinet and a second drum and performing a second course for treating laundry; and a screen output portion provided in at least one of the first treatment device and the second treatment device and outputting a screen, the method comprising a single screen output step in which the screen output portion outputs a screen having a higher priority between a first screen on which information on the first treatment device is displayed and a second screen on which information on the second treatment device is displayed.
23. The method of claim 22, further comprising, prior to the single screen output step, a priority determination step in which a controller for controlling the screen output portion determines priorities of the first screen and the second screen according to a preset priority determination criterion,
wherein, in the single screen output step, the controller controls the screen output portion to output a screen having a higher priority determined in the priority determination step.
24. The method of claim 23, wherein, in the priority determination step, the controller determines a screen for which an output request was most recently generated between the first screen and the second screen as having a higher priority.
25. The method of claim 22, further comprising, after the single screen output step, a screen switching determination step in which the controller determines whether a switching condition for switching one of the first screen and the second screen output from the screen output portion to the other is satisfied.
26. The method of claim 25, wherein the first screen includes a first course setting screen indicating a setting process of the first course, and the second screen includes a second course setting screen indicating a setting process of the second course, and
in the screen switching determination step, if the first course and the second course correspond to setting processes and the screen output portion outputs the first course setting screen indicating the setting process of the first course in the first screen, the controller determines that the switching condition is not satisfied.
27. The method of claim 25, wherein, in the screen switching determination step, if the first course is in progress, the second course corresponds to the setting process, and the screen output portion outputs the second course setting screen indicating the setting process of the second course in the second screen, the controller determines that the switching condition is satisfied.
28. The method of claim 25, wherein, in the screen switching determination step, if the first course and the second course are each in progress and the screen output portion outputs a first course progress screen indicating a progress state of the first course in the first screen, the controller determines that the switching condition is satisfied.
29. The method of claim 25, wherein, in the screen switching determination step, if the first course is in progress, the second course is in progress and is in an error state, and the screen output portion outputs a second error notification screen indicating the error state of the second course among the second screens, the controller determines that the switching condition is satisfied.
30. The method of claim 25, further comprising a simultaneous screen determination step in which the controller determines whether an output condition for a simultaneous screen in which information on the first treatment device and information on the second treatment device are displayed together is satisfied if the switching condition is determined to be satisfied in the screen switching determination step.
31. The method of claim 30, wherein, in the simultaneous screen determination step, if the first course and the second course are each in progress, or at least one of the first course and the second course is in an error state and the other is in progress, the

controller determines that the output condition for the simultaneous screen is satisfied.

5

10

15

20

25

30

35

40

45

50

55

FIG. 1

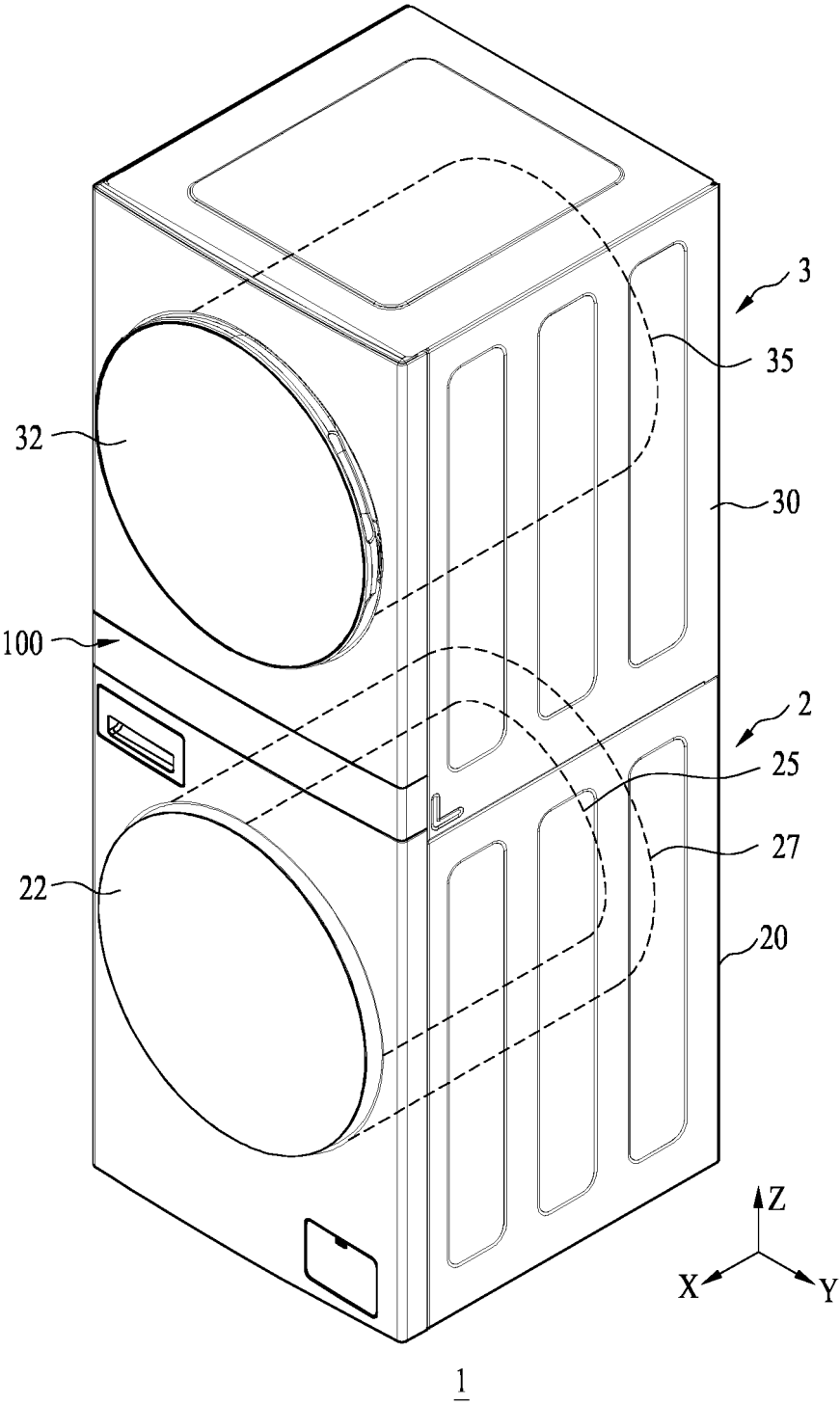


FIG. 2

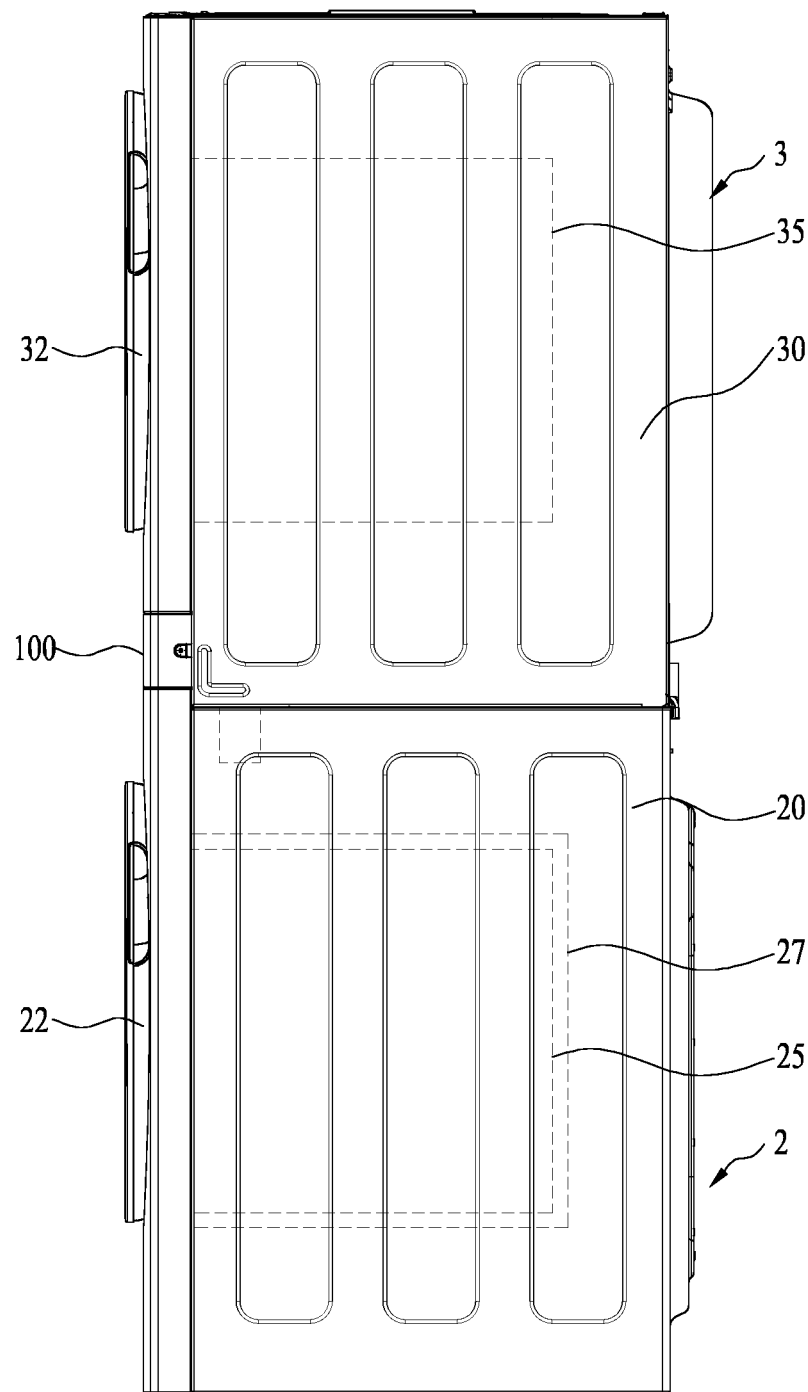


FIG. 3

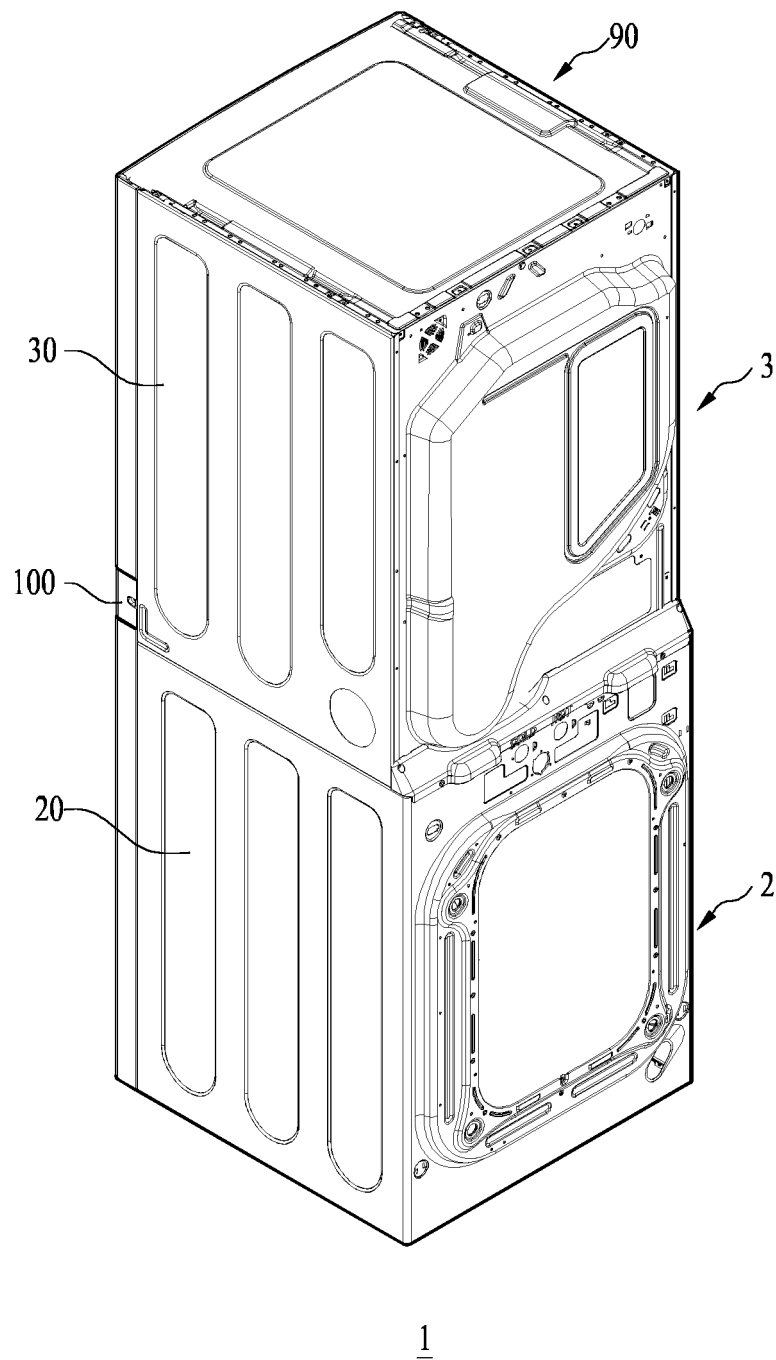
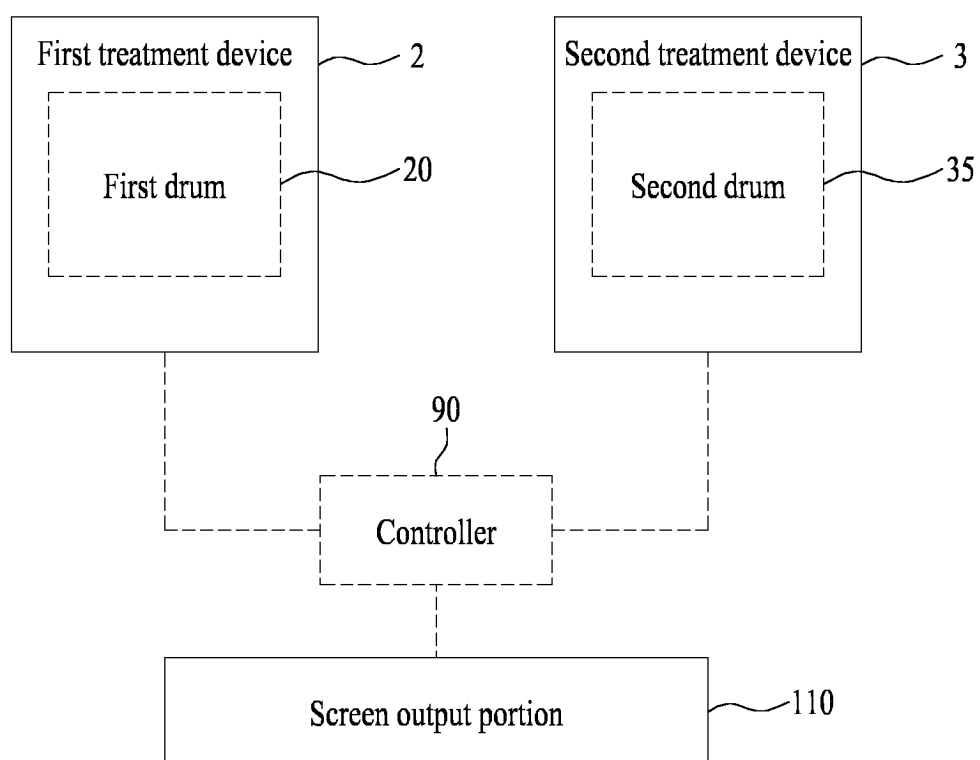


FIG. 4



1

FIG. 5

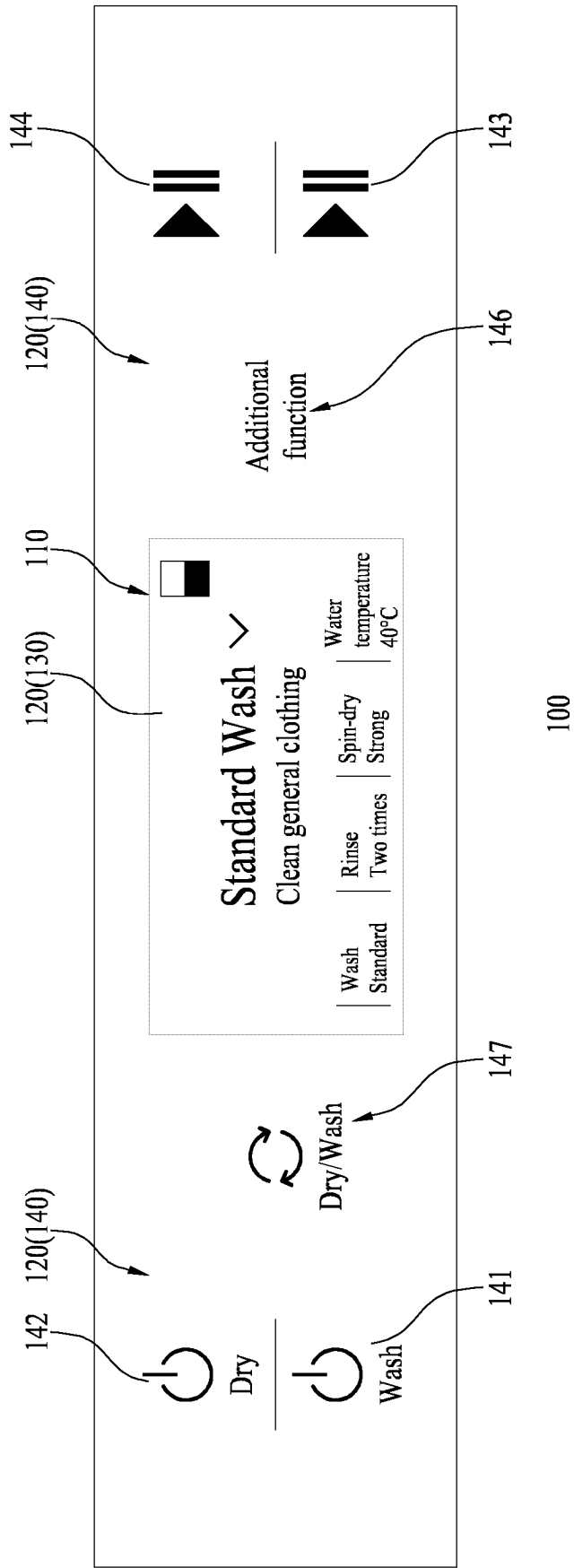


FIG. 6

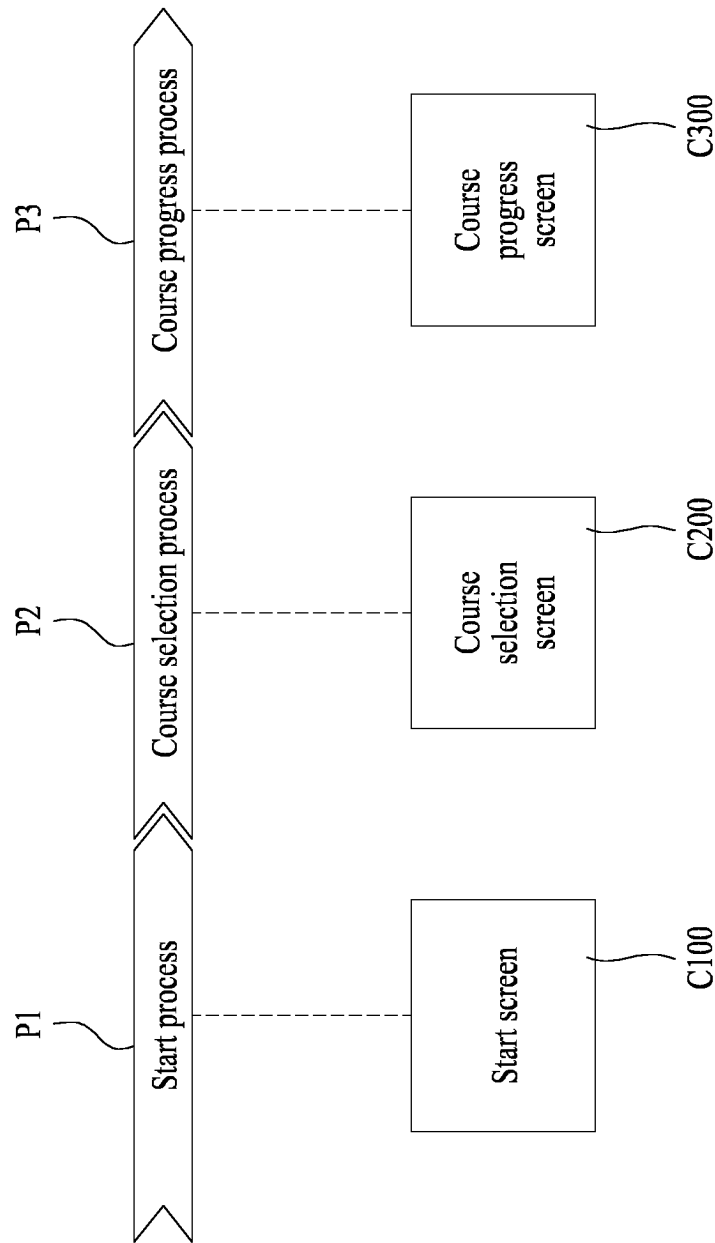


FIG. 7

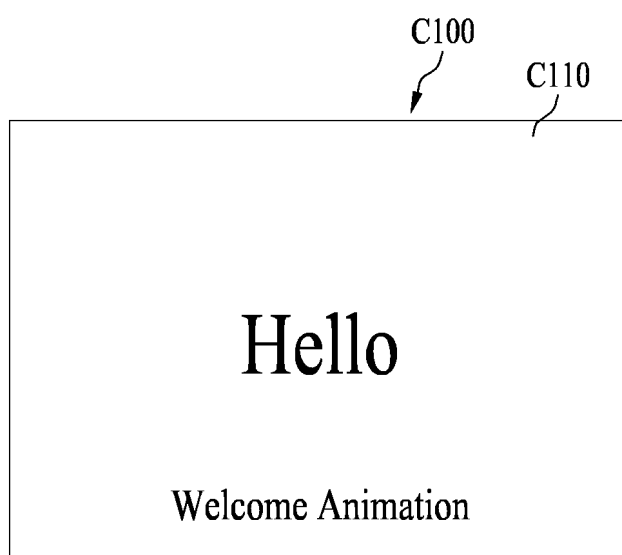


FIG. 8

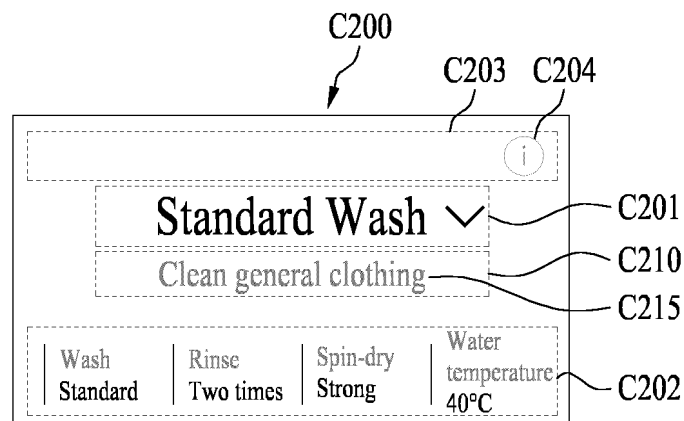


FIG. 9

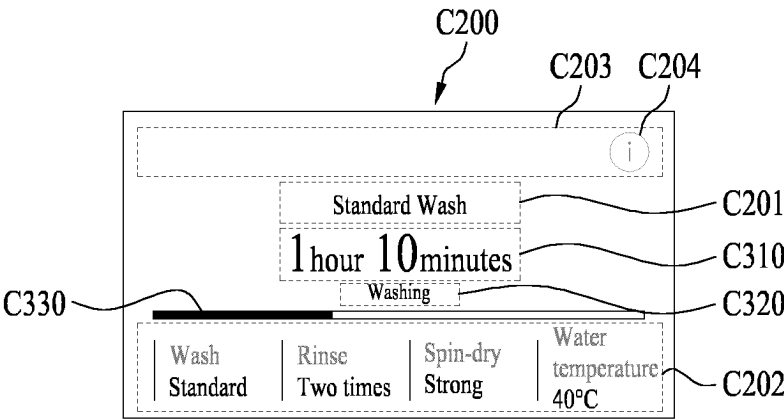
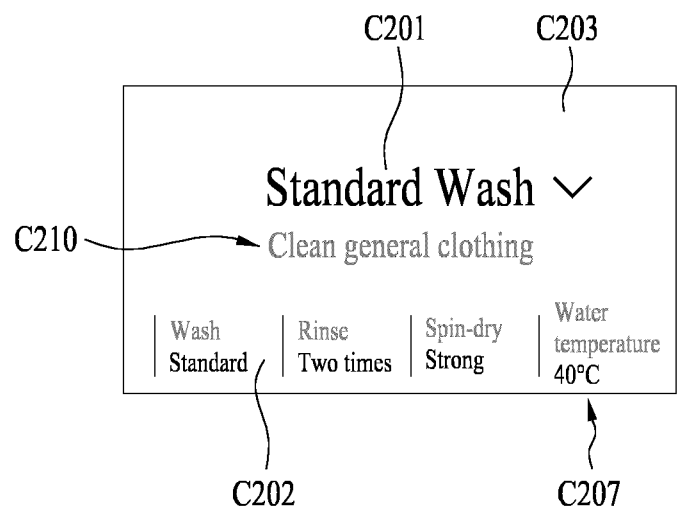
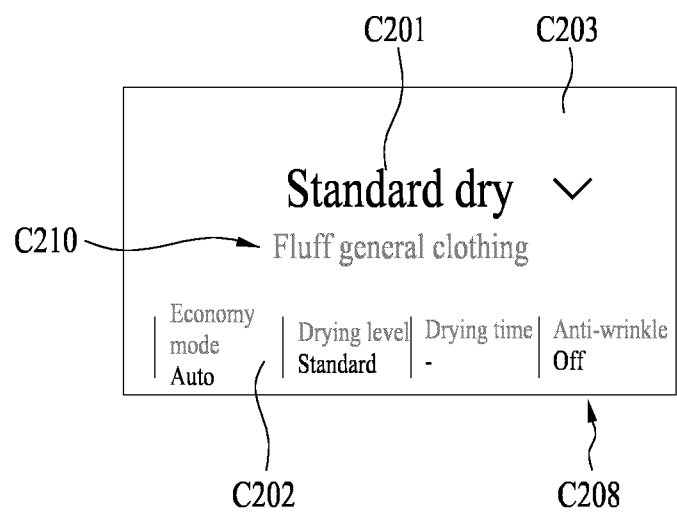


FIG. 10



(a)



(b)

FIG. 11

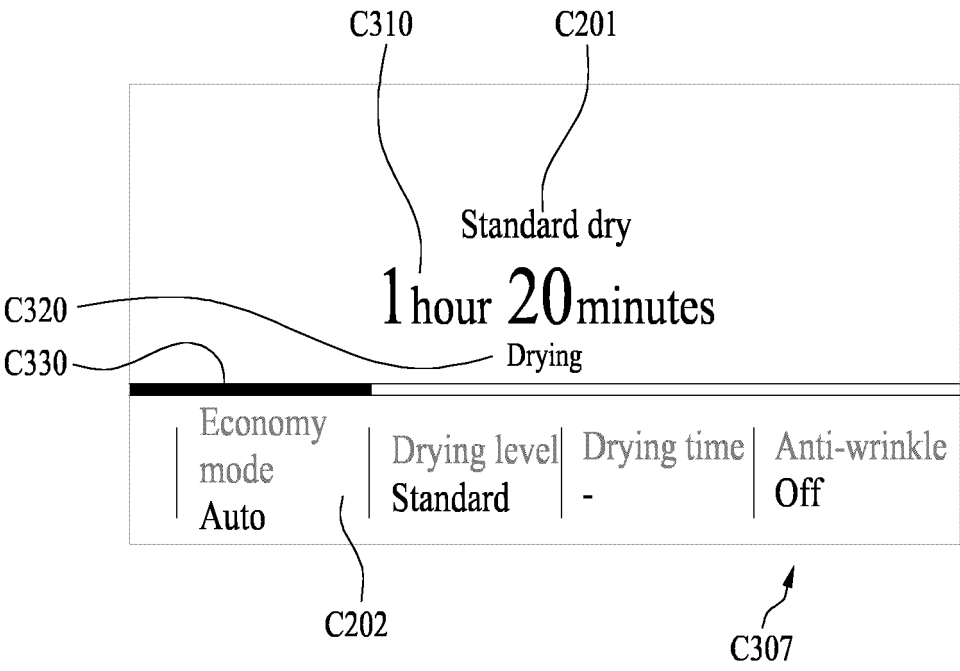
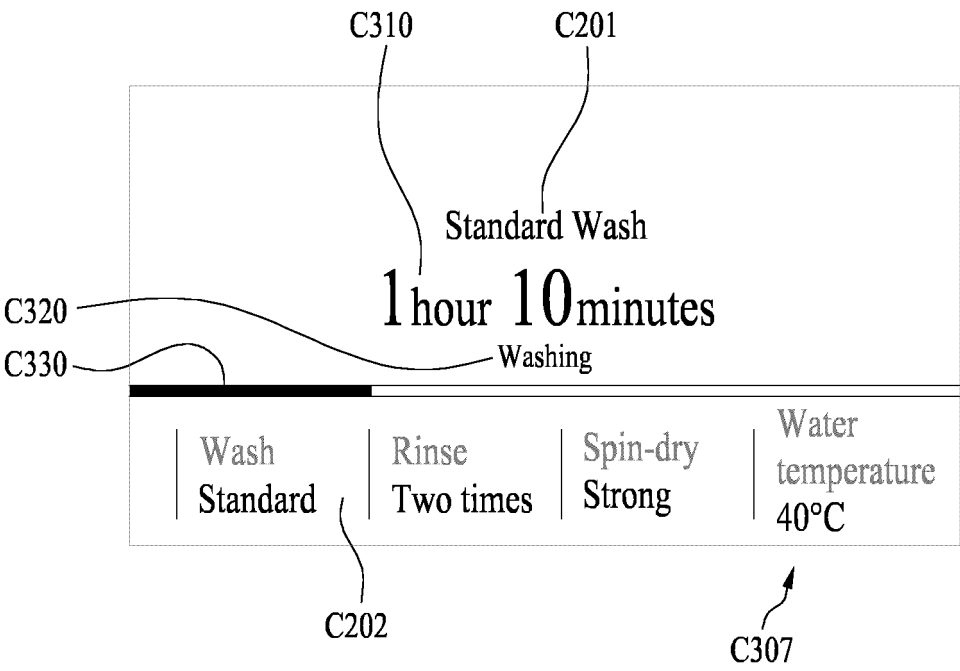


FIG. 12

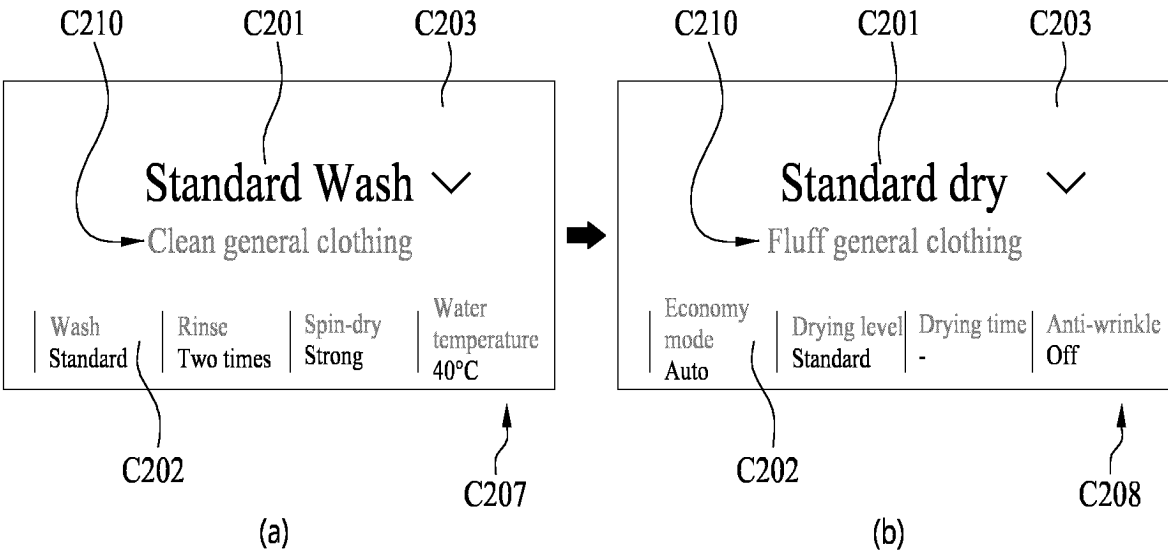


FIG. 13

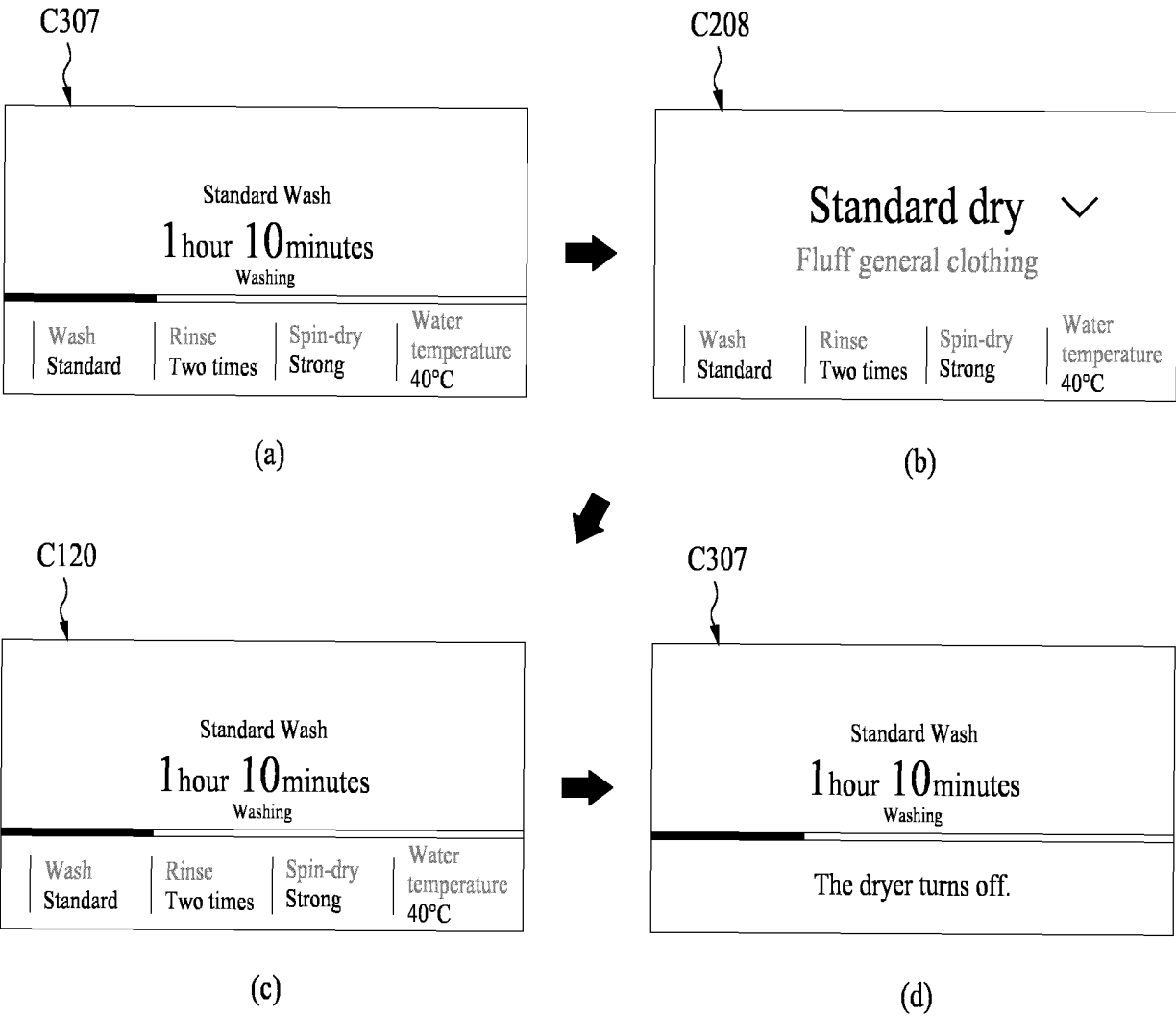


FIG. 14

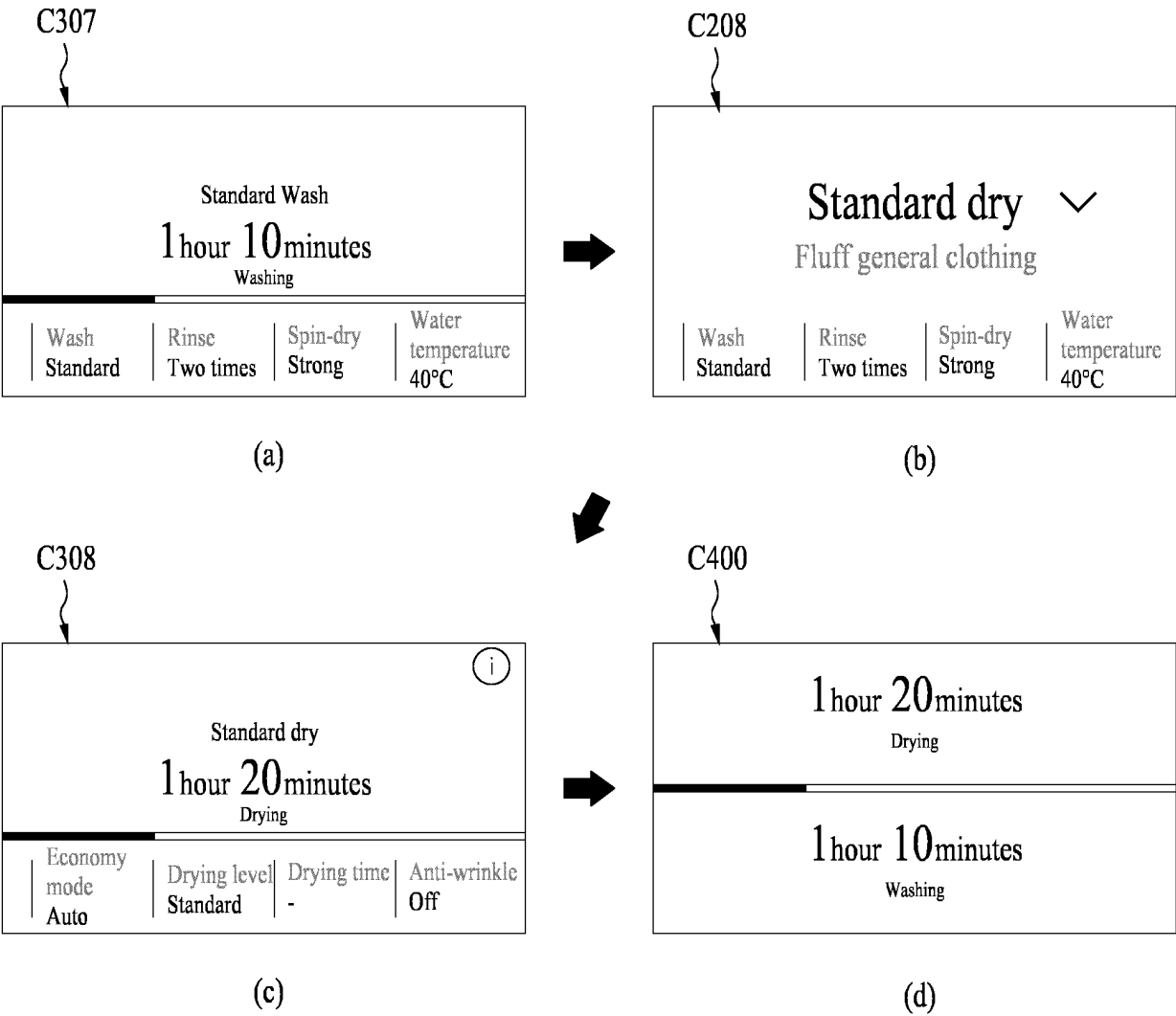


FIG. 15

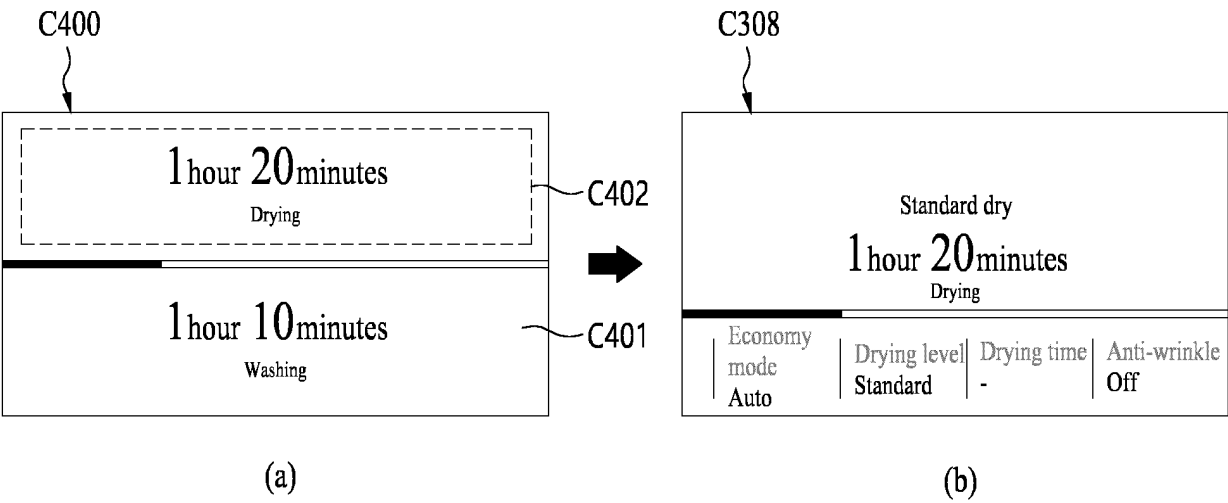


FIG. 16

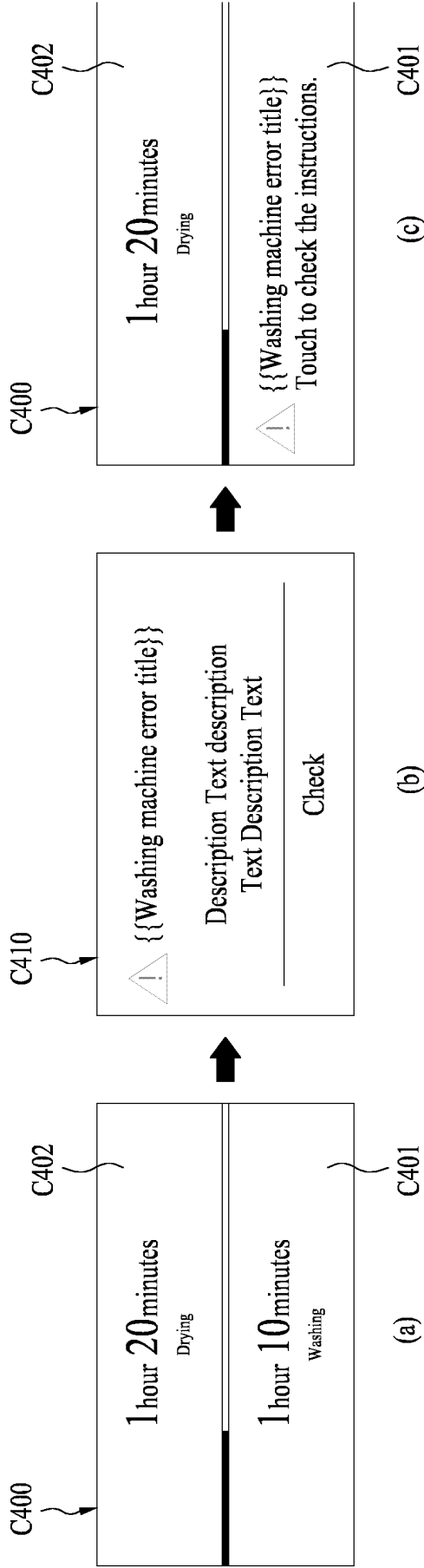


FIG. 17

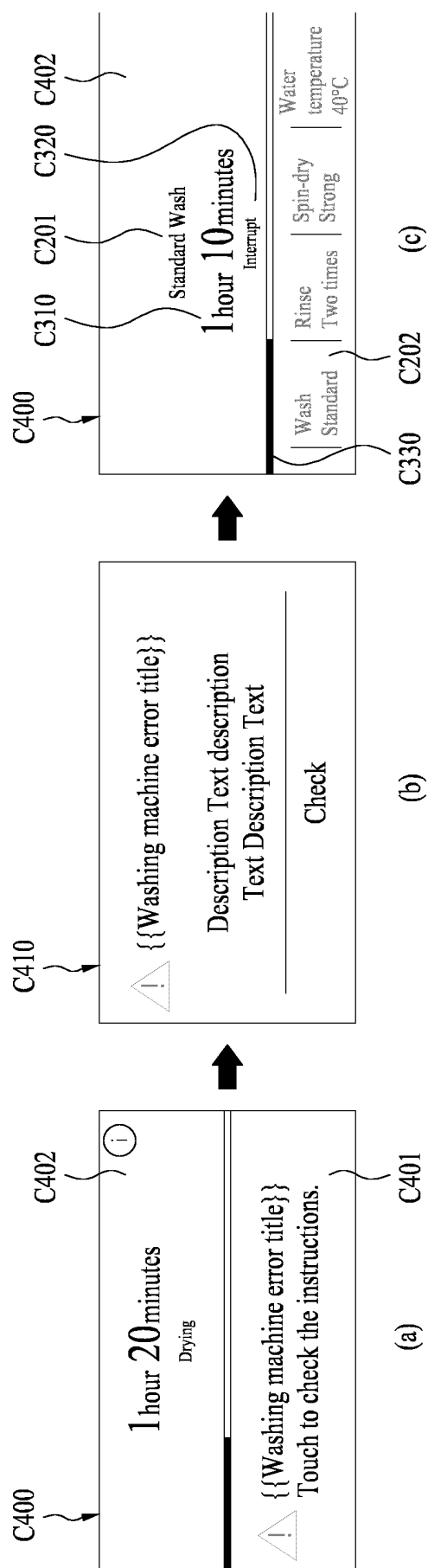
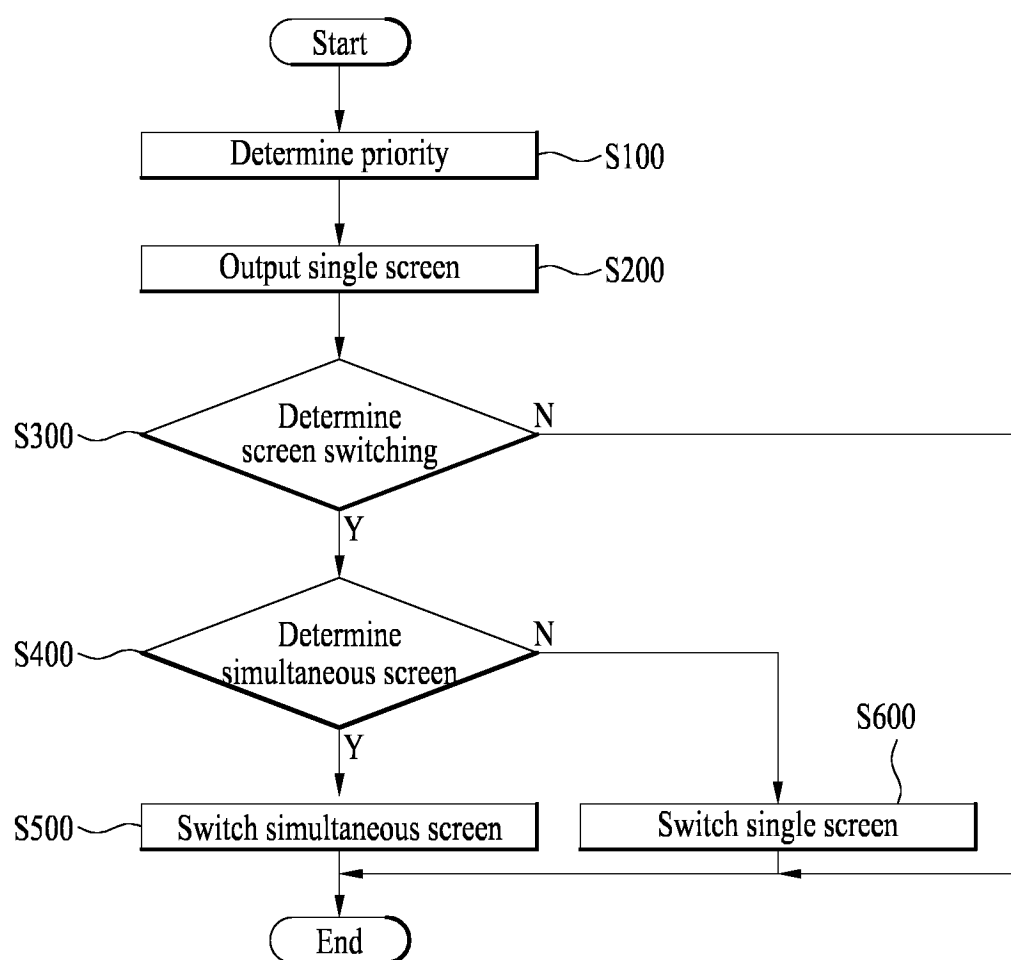


FIG. 18



INTERNATIONAL SEARCH REPORT

International application No.

PCT/KR2023/015012

A. CLASSIFICATION OF SUBJECT MATTER

D06F 34/34(2020.01)i; D06F 34/30(2020.01)i; D06F 34/32(2020.01)i; D06F 34/05(2020.01)i; D06F 33/32(2020.01)i;
D06F 33/52(2020.01)i; D06F 101/00(2020.01)i; D06F 105/58(2020.01)i

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 34/34(2020.01); D06F 31/00(2006.01); D06F 33/00(2006.01); D06F 33/02(2006.01); D06F 34/05(2020.01);
D06F 34/20(2020.01); D06F 34/28(2020.01); D06F 37/04(2006.01); D06F 39/00(2006.01)

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

Korean utility models and applications for utility models: IPC as above

Japanese utility models and applications for utility models: IPC as above

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

eKOMPASS (KIPO internal) & keywords: 의류처리장치(clothes treating apparatus), 캐비닛(cabinet), 드럼(drum), 화면
(screen), 제1처리장치(first treating device), 제2처리장치(second treating device), 우선순위(priority)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	KR 10-2021-0109992 A (SAMSUNG ELECTRONICS CO., LTD.) 07 September 2021 (2021-09-07) See paragraphs [0033]-[0034], [0075], [0095]-[0097], [0162]-[0163], [0231]-[0232], [0244]-[0251], [0257]-[0265] and [0370]-[0373]; and figures 2-3, 5, 10 and 14.	1-12,19-28,30-31
Y		13-18,29
Y	KR 10-2018-0086168 A (LG ELECTRONICS INC.) 30 July 2018 (2018-07-30) See paragraphs [0168]-[0186]; and figures 8-10.	13-14
Y	KR 10-2017-0089677 A (LG ELECTRONICS INC.) 04 August 2017 (2017-08-04) See paragraph [0102]; and figures 1 and 7.	15-18,29
A	KR 10-1954968 B1 (QINGDAO HAIER DRUM WASHING MACHINE CO., LTD.) 06 March 2019 (2019-03-06) See paragraphs [0025]-[0070]; and figures 1-5.	1-31

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:

“A” document defining the general state of the art which is not considered to be of particular relevance

“D” document cited by the applicant in the international application

“E” earlier application or patent but published on or after the international filing date

“L” document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

“O” document referring to an oral disclosure, use, exhibition or other means

“P” document published prior to the international filing date but later than the priority date claimed

“T” later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

“X” document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

“Y” document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

“&” document member of the same patent family

Date of the actual completion of the international search

09 January 2024

Date of mailing of the international search report

09 January 2024

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
Government Complex-Daejeon Building 4, 189 Cheongsaro, Seo-gu, Daejeon 35208

Facsimile No. +82-42-481-8578

Authorized officer

Telephone No.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2023/015012

C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	KR 10-2021-0088500 A (SAMSUNG ELECTRONICS CO., LTD.) 14 July 2021 (2021-07-14) See paragraphs [0076]-[0098]; and figures 4-6.	1-31

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

PCT/KR2023/015012

Patent document cited in search report	Publication date (day/month/year)	Patent family member(s)	Publication date (day/month/year)
KR 10-2021-0109992 A	07 September 2021	EP 4085167 A1	09 November 2022
		US 2021-0269959 A1	02 September 2021
		WO 2021-172945 A1	02 September 2021
KR 10-2018-0086168 A	30 July 2018	AU 2017-204095 A1	02 August 2018
		AU 2017-204095 B2	08 August 2019
		CN 108301165 A	20 July 2018
		CN 108301165 B	29 January 2021
		EP 3348698 A1	18 July 2018
		EP 3348698 B1	14 April 2021
		KR 10-1999701 B1	12 July 2019
		US 11198964 B2	14 December 2021
		US 2018-0202091 A1	19 July 2018
KR 10-2017-0089677 A	04 August 2017	US 11085138 B2	10 August 2021
		US 2019-0062976 A1	28 February 2019
		WO 2017-131486 A1	03 August 2017
KR 10-1954968 B1	06 March 2019	CN 106032625 A	19 October 2016
		CN 106032625 B	13 December 2019
		EP 3269863 A1	17 January 2018
		EP 3269863 B1	02 December 2020
		JP 2018-516606 A	28 June 2018
		JP 6596777 B2	30 October 2019
		KR 10-2017-0124588 A	10 November 2017
		US 10711381 B2	14 July 2020
		US 2018-0057987 A1	01 March 2018
		WO 2016-141714 A1	15 September 2016
KR 10-2021-0088500 A	14 July 2021	AU 2020-392145 A1	03 June 2021
		CA 3154103 A1	03 June 2021
		CN 114765997 A	19 July 2022
		EP 4023806 A1	06 July 2022
		KR 10-2021-0067985 A	08 June 2021
		KR 10-2023-0149799 A	27 October 2023
		KR 10-2023-0157912 A	17 November 2023
		KR 10-2253259 B1	20 May 2021
		KR 10-2280937 B1	23 July 2021
		KR 10-2594152 B1	26 October 2023
		US 11560661 B2	24 January 2023
		US 2021-0164145 A1	03 June 2021
		US 2021-0262140 A1	26 August 2021
		WO 2021-107600 A1	03 June 2021

REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- KR 1020080021921 A1 [0009]