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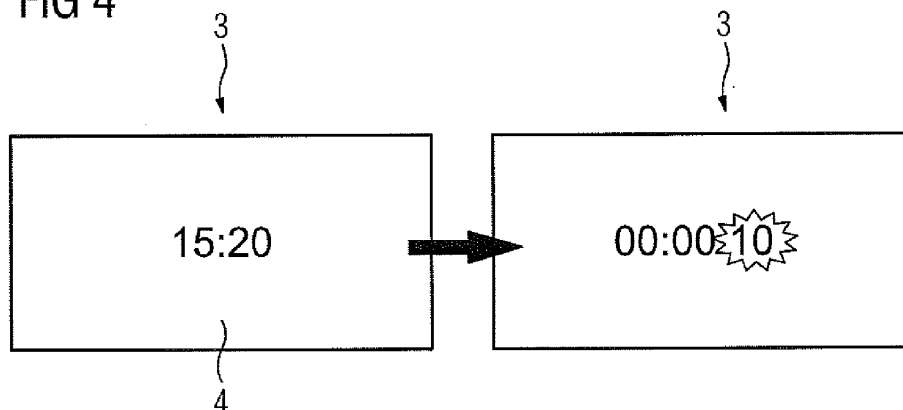
This application was filed on 30-10-2012 as a divisional application to the application mentioned under INID code 62.

(54) **Method for Operating a Domestic Appliance**

(57) The invention relates to a method for operating a domestic appliance, wherein the domestic appliance has at least one switching and/or adjusting element for switching and/or adjusting especially a main parameter of the domestic appliance when the domestic appliance is in a switched-on mode, the domestic appliance has a display element by which a value especially of a main parameter of the domestic appliance can be displayed when the domestic appliance is in a switched-on mode and an alarm clock function can be activated in an alarm

clock operation mode in which a time or a time interval can be set till triggering an alarm, wherein the alarm clock operation mode is started immediately after pressing and/or activating of the at least one switching and/or adjusting element when the domestic appliance is in a switched-off mode, and wherein the display of the display element changes from a display of the actual time to the alarm time and/or to the remaining time interval till triggering the alarm by pressing and/or activating of the at least one switching and/or adjusting element (2).

FIG 4



Description

[0001] The invention relates to a method for operating a domestic appliance, wherein the domestic appliance has at least one switching and/or adjusting element for switching and/or adjusting especially a main parameter of the domestic appliance when the domestic appliance is in a switched-on mode, wherein the domestic appliance has a display element by which a value especially of a main parameter of the domestic appliance can be displayed when the domestic appliance is in a switched-on mode and wherein an alarm clock function can be activated in an alarm clock operation mode in which a time or a time interval can be set till triggering an alarm.

[0002] Domestic appliances, like domestic ovens, often have an alarm clock function which can be activated by selecting a respective sub menu of the controlling software of the appliance. By the alarm clock function a certain time or time interval can be set. After the alarm clock is started and the set time is reached or the set time interval is expired an alarm is triggered, e. g. an acoustic signal.

[0003] An alarm clock function is disclosed in a domestic appliance for example in DE 10 2006 060 379 A1, in DE 10 2204 007 309 A1, in DE 199 31 796 C2, in DE 198 04 399 C2, in DE 195 37 199 A1, in DE 91 13 296 U1 and in EP 1 067 443 A2.

[0004] The pre-known domestic appliances have two drawbacks when it comes to the use of the alarm clock function:

Firstly, in many cases the domestic appliance, e. g. the domestic oven, must be switched on before the alarm clock function can be used. Consequently, the appliance must be sometimes switched on only for the purpose of using the alarm clock function.

Secondly, to set the alarm clock, i. e. to input the time interval till triggering the alarm and to start the run of the alarm clock, normally a sub menu of the control device of the domestic appliance must be selected. I. e. it demands a couple of different steps to get into the alarm clock section of the menu and to set and start the alarm clock.

[0005] Therefore, it is an object of the invention to facilitate the use of the alarm clock function of a domestic appliance, especially of a domestic oven.

[0006] The solution of this object according to the invention is characterized in that the alarm clock operation mode is started immediately after pressing and/or activating of the at least one switching and/or adjusting element when the domestic appliance is in a switched-off mode, wherein the display of the display element changes from a display of the actual time to the alarm time and/or to the remaining time interval till triggering the alarm by pressing and/or activating of the at least one switching and/or adjusting element.

[0007] I.e. the alarm clock of the appliance can easily

be used even and specifically when the appliance is switched off.

[0008] Preferably the alarm time and/or the remaining time till triggering the alarm is displayed in the display element in the alarm clock operation mode.

[0009] Any kind of switching and/or adjusting elements 2 can be employed. The switching and/or adjusting element can be activated by pressing a push button of it. Also, it is possible that the switching and/or adjusting element is activated by turning an adjusting knob of it. Another preferred embodiment suggests that the switching and/or adjusting element is activated by pressing a combined push button and adjusting knob of it. In this case a time interval till triggering the alarm can be set by turning the adjusting knob. The start of the run of the alarm clock can be activated by pressing the push button.

[0010] Alternatively, the switching and/or adjusting element can be activated by touching a screen (touch screen).

[0011] The actual time can be displayed in the display element in the switched-off mode of the domestic appliance and before the alarm clock operation mode is started.

[0012] A pre-set remaining time till triggering the alarm can be displayed in the display element when the switching and/or adjusting element is activated in the switched-off mode of the domestic appliance and before any data concerning the time till triggering the alarm is input. Normally, this pre-set remaining time is zero and the desired time till the alarm is then set correspondingly.

[0013] Preferably, the domestic appliance is a domestic oven and more specifically an electrical oven. The main parameter of the domestic oven can be the heat intensity in a cooking cavity or of a heating element of the domestic oven. Also, the main parameter of the domestic oven can be the selection of a menu for a cooking mode.

[0014] According to the invention the main elements (switching and/or adjusting element) for operating a domestic appliance are used for the alarm clock function when the appliance is switched off. I. e. while the mentioned switching and/or adjusting element is normally - i. e. during the normal operation of the domestic appliance - used to adjust and/or to switch the main operation parameter or parameters (e. g. the intensity of heating in the case of an oven or the washing temperature in the case of a washing machine) this switching and/or adjusting element is used for the purpose to operate the alarm clock when the appliance is switched off ("switched off" means the appliance is not in an operation mode, i. e. the main control switch is switched off).

[0015] Also, the domestic appliance needs not to be switched on for using the alarm clock function.

[0016] In the drawings embodiments of the invention are depicted.

FIG 1 shows a perspective view of a domestic appliance in the form of a domestic oven,

- FIG 2a shows a first embodiment of a switching and/or adjusting element,
- FIG 2b shows a second embodiment of a switching and/or adjusting element,
- FIG 3a illustrates the activation of an alarm clock operation mode when the domestic appliance is switched off in the case of the switching and/or adjusting element according to FIG 2a,
- FIG 3b illustrates the activation of an alarm clock operation mode when the domestic appliance is switched off in the case of the switching and/or adjusting element according to FIG 2b,
- FIG 4 shows (left) a display element of the domestic appliance in the switched-off mode and before the alarm clock operation mode is started and shows (right) the display element in the switched-off mode of the appliance and after the alarm clock operation mode is started.

[0017] In FIG 1 a domestic appliance 1 is depicted which is a domestic oven in the present case. It has - in a known manner - a cooking cavity 5 and heating elements 6.

[0018] To control the cooking process at least one switching and/or adjusting element 2 is arranged by which the main parameter or parameters of the cooking process is or are controlled. In the case of the domestic oven the main parameter which is switched and/or adjusted by the element 2 can be the selection of the cooking mode (radiation, hot air, etc.) or just the intensity of the heating elements of the oven to heat up the heating elements 6 or the cooking cavity 5 to a desired temperature.

[0019] This function of the switching and/or adjusting element 2 is given when the oven 1 is in a switched-on mode, i. e. when a main control switch 7 is in the "on" position.

[0020] Also a display element 3 is arranged at a front panel of the domestic oven 1. At the display element 3 the relevant parameter or parameters of the operation of the domestic oven 1 can be displayed for informing the user of the appliance.

[0021] The switching and/or adjusting element 2 can be designed in different ways. Any kind of switching and/or adjusting elements 2 can be employed, e. g. touch screens etc.

[0022] Two embodiments are shown in FIG 2a and FIG 2b. In FIG 2a the switching and/or adjusting element 2 are just two press buttons by which a value, e. g. the temperature in the cooking cavity, can be increased or decreased.

[0023] In the case of FIG 2b the switching and/or adjusting element 2 is basically a system also called "shuttle". A relevant parameter (main parameter) can be ad-

justed by rotating an adjusting knob 2" (turning knob). A value set in this way can be entered into the control unit of the appliance (not shown) by pressing a push button 2' (marked with "OK"). All the described functions are available as long as the appliance 1 is in a switched-on mode.

[0024] In the switched-on mode it is also possible to activate an alarm clock integrated in the control unit of the appliance as being well known in the art.

10 [0025] The proposed new operation mode comes up with the suggestion that the alarm clock operation mode can be started immediately when the domestic appliance is in a switched-off mode (main control switch 7 in the "off" position) by pressing and/or activating of the switching and/or adjusting element 2.

15 [0026] This is illustrated in FIG 3a and FIG 3b for the two embodiments of the switching and/or adjusting element 2 according to FIG 2a and FIG 2b. Now, the appliance is switched off and one of the press buttons in FIG 3a is pressed or the turning knob 2" is rotated (see arrows). By doing so, the alarm clock operation mode is started immediately without switching on the appliance 1 by the main control switch 7.

25 [0027] By turning the adjusting know 2" a desired time interval can be input; by pressing the push button 2' the alarm clock can be started.

30 [0028] This is illustrated in FIG 4. In the left half of this figure the display element 3 is shown in the switched-off mode of the appliance 1. Here, the actual time 4 is displayed. By actuating the switching and/or adjusting element 2 the display element 3 changes immediately to the information as shown in the right half of FIG 4. In the present embodiment a time interval (hours : minutes : seconds) starts to flash, beginning with "00 : 00 : 00" (Zero). By rotating the adjusting know 2" the desired time until triggering the alarm can be input. After pressing the push button 2' the alarm clock begins to run.

35 [0029] Beneficially, the alarm clock operation mode can be used without switching on the appliance 1. This facilitates the use of the alarm clock especially when the appliance is not in use.

Reference Numerals

45 [0030]

- 1 Domestic appliance (domestic oven)
- 2 Switching and/or adjusting element
- 2' Push button
- 50 2" Adjusting knob (turning knob)
- 3 Display element
- 4 Actual time
- 5 Cooking cavity
- 6 Heating element
- 55 7 Main control switch

Claims

1. Method for operating a domestic appliance (1), wherein the domestic appliance (1) has at least one switching and/or adjusting element (2) for switching and/or adjusting especially a main parameter of the domestic appliance (1) when the domestic appliance is in a switched-on mode, the domestic appliance (1) has a display element (3) by which a value especially of a main parameter of the domestic appliance (1) can be displayed when the domestic appliance (1) is in a switched-on mode and an alarm clock function can be activated in an alarm clock operation mode in which a time or a time interval can be set till triggering an alarm, wherein the alarm clock operation mode is started immediately after pressing and/or activating of the at least one switching and/or adjusting element (2) when the domestic appliance is in a switched-off mode,
characterized in that
the display of the display element (3) changes from a display of the actual time to the alarm time and/or to the remaining time interval till triggering the alarm by pressing and/or activating of the at least one switching and/or adjusting element (2).
2. Method according to claim 1, **characterized in that** the alarm time and/or the remaining time till triggering the alarm is displayed in the display element (3) in the alarm clock operation mode.
3. Method according to claim 1 or 2, **characterized in that** the actual time (4) is displayed in the display element (3) in the switched-off mode of the domestic appliance (1) and before the alarm clock operation mode is started.
4. Method according to at least one of claims 1 till 3, **characterized in that** a pre-set remaining time till triggering the alarm is displayed in the display element (3) when the switching and/or adjusting element (2) is activated in the switched-off mode of the domestic appliance (1) and before any data concerning the time till triggering the alarm is input.
5. Method according to claim 4, **characterized in that** the pre-set remaining time is Zero.
6. Method according to at least one of claims 1 till 5, **characterized in that** the switching and/or adjusting element (2) is activated by touching a screen.
7. Method according to at least one of claims 1 till 5, **characterized in that** the switching and/or adjusting element (2) is activated by pressing a push button (2') of it.
8. Method according to at least one of claims 1 till 5, **characterized in that** the switching and/or adjusting element (2) is activated by turning an adjusting knob (2'') of it.
9. Method according to at least one of claims 1 till 5, **characterized in that** the switching and/or adjusting element (2) is activated by pressing a combined push button and adjusting knob (2', 2'') of it.
10. Method according to claim 8 or 9, **characterized in that** a time interval till triggering the alarm is set by turning the adjusting knob (2'').
11. Method according to claim 9, **characterized in that** the start of the run of alarm clock is activated by pressing the push button (2').
12. Method according to at least one of claims 1 till 11, **characterized in that** the domestic appliance (1) is a domestic oven.
13. Method according to claim 12, **characterized in that** the domestic oven is an electrical oven.
14. Method according to claim 12 or 13, **characterized in that** the main parameter of the domestic oven (1) is the heat intensity in a cooking cavity (5) or of a heating element (6) of the domestic oven (1).
15. Method according to claim 12 or 13, **characterized in that** the main parameter of the domestic oven (1) is the selection of a menu for a cooking mode.

FIG 1

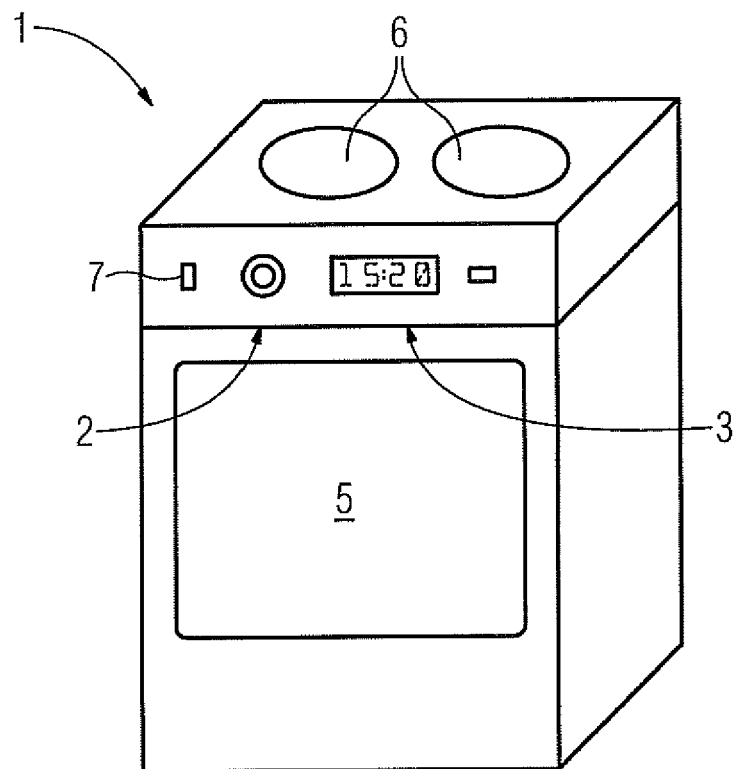


FIG 2a



FIG 2b

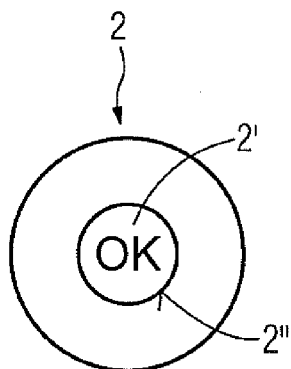


FIG 3a

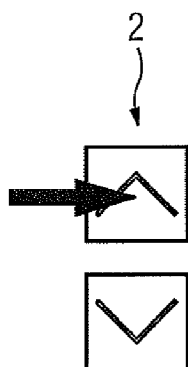


FIG 3b

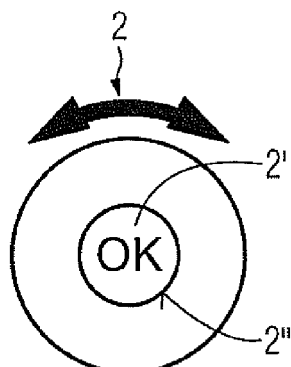
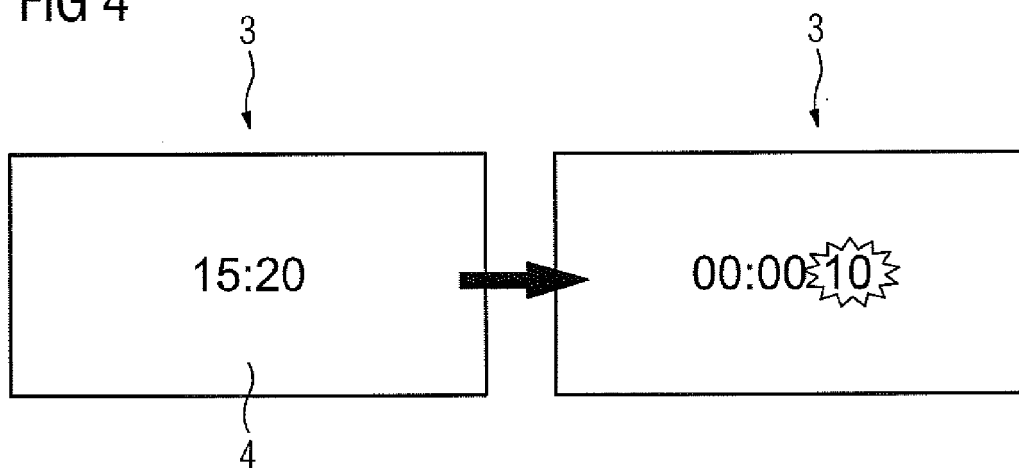


FIG 4





EUROPEAN SEARCH REPORT

Application Number
EP 12 19 0492

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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			F24C G04B G04C G04F G04G
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 14 January 2013	Examiner Bream, Philip
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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

EP 12 19 0492

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