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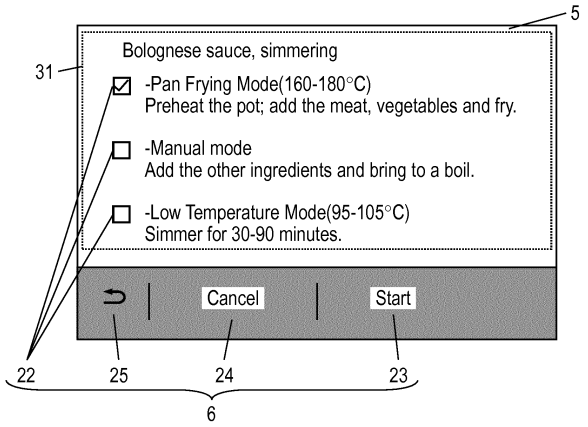
(54) INDUCTION-HEATING COOKER

(57) An induction-heating cooker includes a top plate, a heater, operation unit (6), and a controller. A cooking container is placed on the top plate. The heater performs induction heating on the cooking container. Operation unit (6) receives selection of a cooking course. The cooking course includes plural cooking processes. Each of the plural cooking processes corresponds to a heating condition of the cooking container. The controller controls the heater based on the heating condition. Also, when the cooking course is selected, operation unit (6) is configured to receive selection of a cooking process among the plural cooking processes. Further, the controller controls the heater based on the heating condition corresponding to the selected cooking process.

FIG. 6



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Description

TECHNICAL FIELD

[0001] The present invention relates to an induction-heating cooker, and specifically, relates to an induction-heating cooker having pre-set cooking courses each including plural cooking processes.

BACKGROUND ART

[0002] Conventionally, in an induction-heating cooker of this type, a configuration is proposed in which a time duration of finishing each of the cooking processes pre-set in an automatic cooking course can be changed in order to improve a finished quality of a cooked product in the automatic cooking course (for example, refer to PTL 1).

[0003] For example, as shown in FIG. 12, induction-heating cooker 200 of the conventional art is constituted of top plate 202 on which cooking container 201 such as a flying pan or pot is placed, heating coil 203 for heating cooking container 201, inverter 204 for supplying a high frequency current to heating coil 203, control means 205 for controlling an output of inverter 204, operation unit 206, display unit 207 for displaying set course and time duration, counting means 208 for counting the time duration, and notifying means 209 for notifying a user of a timing of cooking. Operation unit 206 includes automatic cooking course setting means 206a for setting an automatic cooking course (set course) having plural cooking processes, start key 206b for instructing to start cooking, and timer setting means 206c for setting a timer.

[0004] In induction-heating cooker 200 of the conventional art, a user selects an optional automatic cooking course using automatic cooking course setting means 206a. Thereafter, when the user presses start key 206b, control means 205 controls the high frequency current supplied from inverter 204 to heating coil 203, based on stored cooking sequence information. Then, cooking of cooking material inside cooking container 201 starts. Further, induction-heating cooker 200 of the conventional art notifies the user, using notifying means 209, that each of the cooking processes is about to finish at a predetermined time before each of the cooking processes finishes, each of the cooking processes being based on the stored cooking sequence information (for example, when the cooking material is a hamburger steak, processes include preheating process, front-side frying process, and rear-side frying process).

[0005] In induction-heating cooker 200 of the conventional art, after notifying means 209 notifies the user that each of the cooking processes is about to finish, the user can operate timer setting means 206c to change the time duration until each of the cooking processes is finished.

Citation List

Patent Literature

[0006] PTL 1: Unexamined Japanese Patent Publication No. 2014-164837

SUMMARY OF THE INVENTION

[0007] However, in the above-mentioned conventional induction-heating cooker, there is still some room for improvement in view of improving usability of the induction-heating cooker.

[0008] That is, the above-mentioned conventional induction-heating cooker is configured such that, when the user selects the optional automatic cooking course and the selected automatic cooking course starts, the control means executes each of the cooking processes in a pre-set order based on the pre-set cooking sequence information. Therefore, in the above-mentioned conventional induction-heating cooker, the user cannot temporarily stop the cooking process being executed and restart the cooking from the stopped cooking process, or cannot execute only the optional cooking process based on the pre-set cooking sequence. Accordingly, there may be a case of lowering a degree of freedom in cooking and causing degradation in the usability of the induction-heating cooker.

[0009] In order to solve the problem of the above-described conventional art, an induction-heating cooker of the present invention includes a top plate, a heater, an operation unit, and a controller. A cooking container is placed on the top plate. The heater performs induction heating on the cooking container. The operation unit receives selection of a cooking course. The cooking course includes plural cooking processes. Each of the plural cooking processes corresponds to a heating condition of the cooking container. The controller controls the heater based on the heating condition. Also, when the cooking course is selected, the operation unit is configured to receive selection of a cooking process among the plural cooking processes. Further, the controller controls the heater based on the heating condition corresponding to the selected cooking process.

[0010] With this configuration, the user can execute the cooking process from among the pre-set plural cooking processes. Accordingly, the degree of freedom in cooking improves. Also, the usability of the induction-heating cooker improves.

BRIEF DESCRIPTION OF DRAWINGS

[0011]

FIG. 1 is an exploded perspective view showing an induction-heating cooker in a first exemplary embodiment of the present invention.

FIG. 2 is a block diagram showing the induction-heat-

ing cooker in the first exemplary embodiment of the present invention.

FIG. 3 is a diagram showing an example of a heating state display of an operation display unit of the induction-heating cooker in the first exemplary embodiment of the present invention, in a state of a heating position of a cooking container not being selected.

FIG. 4 is a diagram showing an example of the heating state display of the operation display unit of the induction-heating cooker in the first exemplary embodiment of the present invention, in a state of the heating position of the cooking container being selected.

FIG. 5 is a diagram showing an example of a state in which a cooking course selection display is displayed in the operation display unit of the induction-heating cooker in the first exemplary embodiment of the present invention.

FIG. 6 is a diagram showing an example of a state in which a cooking process display is displayed in the operation display unit of the induction-heating cooker in the first exemplary embodiment of the present invention.

FIG. 7 is a diagram showing an example of the heating state display of the operation display unit of the induction-heating cooker in the first exemplary embodiment of the present invention, in a state of an optional cooking process being executed.

FIG. 8 is a diagram showing an example of the heating state display of the operation display unit of the induction-heating cooker in the first exemplary embodiment of the present invention, in a state of a second stop operation part being manipulated.

FIG. 9 is a diagram showing an example of the cooking process display of the operation display unit of the induction-heating cooker in the first exemplary embodiment of the present invention, in a state in which a first stop operation part is manipulated and a cooking process succeeding the cooking process being stopped is selected.

FIG. 10 is a diagram showing an example of the cooking process display of the operation display unit in the induction-heating cooker in the first exemplary embodiment of the present invention, in a state of the first stop operation part being manipulated and a final cooking process being selected.

FIG. 11 is a diagram showing an example of the heating state display of the operation display unit of the induction-heating cooker in the first exemplary embodiment of the present invention, in a state of the final cooking process being executed.

FIG. 12 is a block diagram showing a conventional induction-heating cooker.

DESCRIPTION OF EMBODIMENTS

[0012] A first aspect of the present invention is an induction-heating cooker including a top plate, a heater, an operation unit, and a controller. A cooking container is placed on the top plate. The heater performs induction heating on the cooking container. The operation unit receives selection of a cooking course. The cooking course includes plural cooking processes. Each of the plural cooking processes corresponds to a heating condition of the cooking container. The controller controls the heater based on the heating condition. Also, when the cooking course is selected, the operation unit is configured to receive selection of an optional cooking process among the plural cooking processes. Further, the controller controls the heater based on the heating condition corresponding to the selected cooking process.

[0013] With this configuration, a user can execute the optional cooking process from among the pre-set plural cooking processes. Accordingly, a degree of freedom in cooking improves. Also, usability of the induction-heating cooker improves.

[0014] A second aspect of the present invention relates, in particular, to the first aspect. The induction-heating cooker of the second aspect includes a first stop operation part that receives, when the cooking course is selected, an input for stopping a first cooking process being executed among the plural cooking processes. When the first stop operation part is manipulated, the controller stops the first cooking process.

[0015] With this configuration, the user can temporarily stop the cooking process being executed. Accordingly, the degree of freedom in cooking further improves. Also, the usability of the induction-heating cooker improves.

[0016] A third aspect of the present invention relates, in particular, to the second aspect. In the induction-heating cooker of the third aspect, when the first stop operation part is manipulated during execution of the first cooking process, and if the cooking course includes a second cooking process succeeding the first cooking process being stopped, the controller controls the heater based on a heating condition corresponding to the second cooking process. If the cooking course does not include the second cooking process, the controller controls the heater based on a heating condition corresponding to the first cooking process.

[0017] With this configuration, the user can stop the cooking process being executed by manipulating the first stop operation part. Additionally, if there is a cooking process succeeding the cooking process being stopped, the succeeding cooking process can be selected. Accordingly, usability of cooking utilizing the cooking course improves. Also, the usability of the induction-heating cooker improves.

[0018] A fourth aspect of the present invention relates, in particular, to the second or third aspect. The induction-heating cooker of the fourth aspect includes a display unit configured to display the heating condition. The controller causes the display unit to display the plural cooking processes included in the cooking course when the operation unit receives selection of the cooking course and when the first stop operation part is manipulated during

execution of the cooking course.

[0019] With this configuration, the user can confirm progress of a cooking procedure or cooking process in the cooking course being executed by the display unit. Accordingly, the usability of the induction-heating cooker improves.

[0020] A fifth aspect of the present invention relates, in particular, to the first to third aspects. The induction-heating cooker of the fifth aspect includes a second stop operation part that receives an input for finishing the cooking course during execution of the cooking course. When the second stop operation part is manipulated, the controller finishes the cooking course.

[0021] With this configuration, the user can finish the cooking course being executed by manipulating the second stop operation part regardless of how much the cooking course has progressed. Accordingly, the usability of the induction-heating cooker improves.

[0022] A sixth aspect of the present invention is related, in particular, to the fifth aspect. The induction-heating cooker of the sixth aspect includes a display unit configured to display the heating condition. In the induction-heating cooker of the sixth aspect, when the second stop operation part is manipulated during execution of the cooking course, the controller causes the display unit to display a heating state of the cooking container placed on the top plate. Also, the controller causes the operation unit to receive an input of the heating condition.

[0023] With this configuration, when the user finishes the cooking course being executed by manipulating the second stop operation part, the user can confirm at the display unit the heating state of the cooking container. The user can also set at the operation unit the heating condition of the cooking container. Accordingly, the degree of freedom in cooking improves. Also, the usability of the induction-heating cooker improves.

[0024] A seventh aspect of the present invention relates, in particular to, the fourth aspect. The induction-heating cooker of the seventh aspect includes a second stop operation part that receives an input for finishing a cooking course during execution of the cooking course. In the induction-heating cooker of the seventh aspect, when the second stop operation part is manipulated, the controller finishes the cooking course.

[0025] With this configuration, the user can finish the cooking course being executed by manipulating the second stop operation part regardless of how much the cooking course has progressed. Accordingly, the usability of the induction-heating cooker improves.

[0026] An eighth aspect of the present invention relates, in particular to, the seventh aspect. In the induction-heating cooker of the eighth aspect, when the second stop operation part is manipulated during execution of the cooking course, the controller causes the display unit to display a heating state of the cooking container placed on the top plate. The controller also causes the operation unit to receive an input of the heating condition.

[0027] With this configuration, when the user finishes the cooking course being executed by manipulating the second stop operation part, the user can confirm at the display unit the heating state of the cooking container. The user can also set at the operation unit the heating condition of the cooking container. Accordingly, the degree of freedom in cooking improves. Also, the usability of the induction-heating cooker improves.

[0028] Hereinafter, a preferable exemplary embodiment of the induction-heating cooker of the present invention is described in detail with reference to the drawings. Note that in the following descriptions, the same or corresponding parts are labeled with the same symbols, and the overlapping descriptions are omitted.

(First exemplary embodiment)

[0029] A first exemplary embodiment of an induction-heating cooker of the present invention is hereinafter described with reference to FIG. 1 to FIG. 11.

[0030] FIG. 1 is an exploded perspective view showing the induction-heating cooker in the first exemplary embodiment of the present invention. FIG. 2 is a block diagram showing the induction-heating cooker in the first exemplary embodiment of the present invention. FIG. 3 is a diagram showing an example of a heating state display of an operation display unit of the induction-heating cooker in the first exemplary embodiment of the present invention, in a state of a heating position of a cooking container not being selected. FIG. 4 is a diagram showing an example of the heating state display of the operation display unit of the induction-heating cooker in the first exemplary embodiment of the present invention, in a state of the heating position of the cooking container being selected. FIG. 5 is a diagram showing an example of a state in which a cooking course selection display is displayed in the operation display unit of the induction-heating cooker in the first exemplary embodiment of the present invention. FIG. 6 is a diagram showing an example of a state in which a cooking process display is displayed in the operation display unit of the induction-heating cooker in the first exemplary embodiment of the present invention. FIG. 7 is a diagram showing an example of the heating state display of the operation display unit of the induction-heating cooker in the first exemplary embodiment of the present invention, in a state of an optional cooking process being executed. FIG. 8 is a diagram showing an example of the heating state display of the operation display unit of the induction-heating cooker in the first exemplary embodiment of the present invention, in a state of a second stop operation part being manipulated.

1. Structure

[0031] As shown in FIG. 1 and FIG. 2, induction-heating cooker 100 includes main body 1 and heater 2. The main body includes housing 1a having an opening in an upper part, and top plate 1b covering the opening of hous-

ing 1a. Heater 2 is arranged inside main body 1. Heater 2 performs induction heating on cooking container H. Cooking container H is a pot or frying pan placed on an upper surface of top plate 1b.

[0032] Top plate 1b is made of glass material having high heat resistance. Further, at a front center part of the upper surface of top plate 1b, operation display window unit 1c is formed, which is transparent and is arranged opposite to operation display unit 5 described later.

[0033] Heater 2 includes plural heating coil units 3 and inverter substrate 4. Each of plural heating coil units 3 performs induction heating on cooking container H placed on the upper surface of top plate 1b. Inverter substrate 4 supplies a high frequency current to each of plural heating coil units 3.

[0034] Each of heating coil units 3 includes plural heating coils 3a and shield plate 3b having an approximately rectangular shape. Each of plural heating coils 3a performs induction heating on cooking container H placed on the upper surface of top plate 1b. Plural heating coils 3a are arranged on shield plate 3b.

[0035] A shape of each of heating coils 3a is an elliptical shape having a minor axis and a major axis in plan view. A shape of shield plate 3b is approximately rectangular in which a pair of opposing sides is a long side and another pair of opposing sides is a short side. Plural heating coils 3a are aligned in a row on an upper surface of shield plate 3b along a front-and-rear direction of main body 1 so as to be proximate to each other. Further, each of plural heating coils 3a is aligned to have the long side whose length direction is parallel to a left-and-right direction of main body 1.

[0036] In the first exemplary embodiment, the elliptical shape is not limited to a mathematical ellipse having two focal points. The ellipse may have a shape that at least has the minor axis and the major axis, and may also have a shape that contains a linear portion in a contour. Corners of the elliptical shape are preferably formed of a curve.

[0037] Further, in the first exemplary embodiment, the front-and-rear direction is a direction indicated by arrow X in FIG. 1. Still further, in the first exemplary embodiment, the left-and-right direction is a direction indicated by arrow Y in FIG. 1.

[0038] Inverter substrate 4 is connected to a commercial power source. Also, inverter substrate 4 is connected to a rectifier circuit for rectifying an alternating current to a direct current, and to a direct current power source circuit. An inverter circuit for supplying the high frequency current to each of plural heating coils 3a is mounted on inverter substrate 4.

[0039] As shown in FIG. 2, operation display unit 5 is arranged inside main body 1. Operation display unit 5 includes operation part 6 and display part 31 which are shown in FIG. 3. Operation part 6 receives an input of such as a heating condition for heating cooking container H arranged on the upper surface of top plate 1b. Display part 31 displays various types of screens upon receiving control from controller 36. For example, display part 31 displays the heating condition set at operation part 6. Further, display part 31 displays a selection screen of cooking menu shown in FIG. 5, and a selection screen of cooking processes shown in FIG. 6. Note that in the first exemplary embodiment, operation part 6 is a part of operation display unit 5, and display part 31 is also a part of operation display unit 5. At least a part of operation part 6 and at least a part of display part 31 are arranged in a region on a display screen of operation display unit 5 where the two parts overlap with each other.

[0040] Further, as shown in FIG. 2, controller 36 for controlling heater 2 based on the heating condition set at operation part 6 is arranged inside main body 1.

[0041] Operation display unit 5 is constituted of a liquid display device and a touch panel arranged on an upper surface of the liquid display device. Further, operation display unit 5 is arranged at the front center part of main body 1 so as to oppose operation display window unit 1c of FIG. 1 formed in top plate 1b. Moreover, operation display unit 5 is configured, by having operation part 6 and display part 31 displayed on a screen of the liquid display device, to allow a user to set the heating condition for heating cooking container H placed on the upper surface of top plate 1b and to also visually confirm a heating state of cooking container H placed on the upper surface of top plate 1b.

2. Display mode

[0042] Hereinafter, a display mode of operation display unit 5 according to the first exemplary embodiment is described.

2-1. Heating state display in state of heating position not being selected

[0043] When a user turns power of induction-heating cooker 100 ON, controller 36 controls operation display unit 5 to cause the heating state display as shown in FIG. 3 to be displayed. The heating state display is a display by which a heating state of cooking container H placed on the upper surface of top plate 1b can be confirmed. Additionally, the heating state display is the display configured to receive the input of the heating condition of cooking container H placed on the upper surface of top plate 1b. When operation display unit 5 displays the heating state display, controller 36 controls operation display unit 5 to cause operation part 6 and display part 31 to be displayed at pre-set positions in operation display unit 5.

[0044] Moreover, the heating state display shown in FIG. 3 is the heating state display in a state of a position of heating cooking container H (hereinafter, referred to as a heating position) not being selected by the user. In the heating state display of FIG. 3, operation display unit 5 displays, as operation part 6, heating position selection keys 7, cleaning mode selection key 8, help key 9, timer key 10, setting key 11, and lock key 12. Heating position

selection keys 7 receive selection of the heating position. Cleaning mode selection key 8 is manipulated when the user cleans the upper surface of top plate 1b. Help key 9 is manipulated to display information such as an operation method of induction-heating cooker 100. Timer key 10 receives an input related to setting of a time duration of a timer. Setting key 11 receives an input related to setting of languages and the like displayed in operation display unit 5. Lock key 12 is manipulated to inhibit operation part 6 from receiving various types of manipulation.

[0045] In the heating state display in the state in which the heating position is not selected, plural heating position selection keys 7 are displayed in display part 31. Also, in the heating state display in the state in which the heating position is not selected, among the displayed keys of operation part 6, each of cleaning mode selection key 8, help key 9, timer key 10, setting key 11, and lock key 12 is arranged adjacent to another one of the keys. Further, cleaning mode selection key 8, help key 9, timer key 10, setting key 11, and lock key 12 are displayed in a row along the left-and-right direction of operation display unit 5 at a lower part of operation display unit 5 in a sheet plane of FIG. 3.

[0046] Still further, as shown in FIG. 3, in the heating state display in the state of the heating position not being selected, display part 31 is displayed in a center and upper part of operation display unit 5 in the sheet plane of FIG. 3. In the heating state display, a display that simulates the upper surface of top plate 1b is displayed in display part 31. Hereinafter, the display that simulates the upper surface of top plate 1b is referred to as a top plate display. Also, in the top plate display, a position corresponding to a position of heating coil unit 3 in a real environment is displayed as a position at which cooking container H can be heated. Hereinafter, a display that indicates a position corresponding to the position of heating coil unit 3 in the top plate display is referred to as a heating position display.

[0047] Heating position selection keys 7 are displayed at positions corresponding to the heating position display in the top plate display displayed in display part 31. The user can select the heating position by manipulating the heating position selection key 7.

[0048] Cleaning mode selection key 8 is arranged on a left end of operation part 6 displayed at the lower part of operation display unit 5 in the sheet plane of FIG. 3. When the user manipulates cleaning mode selection key 8, controller 36 controls operation display unit 5 not to receive other manipulation at operation part 6 for a pre-set predetermined time duration.

[0049] Help key 9 is arranged on a right side of cleaning mode selection key 8 on the sheet plane of FIG. 3. When the user manipulates help key 9, controller 36 controls operation display unit 5 to switch a display of display part 31 from the top plate display (display that simulates the upper surface of top plate 1b) to a display of information related to the operation method and the like of induction-heating cooker 100. That is, the information related to the operation method and the like of induction-heating cooker 100 is displayed in display part 31 by manipulating help key 9.

[0050] Timer key 10 is arranged on the right side of help key 9 on the sheet plane of FIG. 3. When the user manipulates timer key 10, controller 36 controls operation display unit 5 to display, as operation part 6, a key that allows the user to set the time duration of the timer.

[0051] Setting key 11 is arranged on the right side of timer key 10 on the sheet plane of FIG. 3. When the user manipulates setting key 11, controller 36 controls operation display unit 5 to switch the display of display part 31 from the top plate display to a display of appliance setting information of induction-heating cooker 100. The appliance setting information includes information related to setting of languages and the like. Note that controller 36 performs control such that operation display unit 5 only receives change in the predetermined appliance setting information such as languages, among the appliance setting information displayed in display part 31.

[0052] Lock key 12 is arranged on a right end of operation part 6 displayed at the lower part of operation display unit 5 in the sheet plane of FIG. 3. When the user manipulates lock key 12, controller 36 controls operation display unit 5 not to receive other manipulation at operation part 6.

2-2. Heating state display in a case of heating position being selected

[0053] FIG. 4 shows the heating state display in a case of the user selecting heating position selection key 7 and the heating position being selected. When the heating position is selected, controller 36 controls operation display unit 5 to switch a display of operation display unit 5 from the heating state display of FIG. 3 (heating state display in the state of the heating position not being selected) to the heating state display of FIG. 4 (heating state display in a state of the heating position being selected).

[0054] In the heating state display of FIG. 4, operation display unit 5 displays, as operation part 6, heating position selection keys 7, heating power setting key 13, temperature setting key 14, cooking course display key 15, and water boiling key 16. Heating power setting key 13 receives setting of heating power for heating cooking container H. Temperature setting key 14 receives setting of temperature for heating cooking container H. The cooking course display key is manipulated in a case of the user selecting an optional cooking course from among plural cooking courses. In other words, the cooking course display key receives selection of the cooking course. The plural cooking courses are stored in induction-heating cooker 100 in advance. Also, each of the plural cooking courses includes plural pre-set cooking processes. Water boiling key 16 is manipulated in a case of boiling water contained in cooking container H.

[0055] In the heating state display shown in FIG. 4, each of heating power setting key 13, temperature setting key 14, cooking course display key 15, and water boiling key 16 is arranged adjacent to another one of the keys. Further, heating power setting key 13, temperature setting key 14, cooking course display key 15, and water boiling key 16 are displayed in a row along the left-and-right direction of operation display unit 5 at a lower part of operation display unit 5 in a sheet plane of FIG. 4. Heating position selection keys 7 are displayed at positions corresponding to the heating position display in the top plate display.

[0056] Further, in the heating state display shown in FIG. 4, display part 31 displays heating selected position display 32 displaying the heating position selected by the user using heating position selection key 7. Heating selected position display 32 is a display that surrounds with a square frame the heating position selected by the user, in coordination with the display that simulates top plate 1b and is displayed on display part 31. With this display mode, the heating state display shown in FIG. 4 displays the heating position selected by the user.

[0057] Note that in induction-heating cooker 100 of the first exemplary embodiment, temperature sensors for detecting a temperature of cooking container H are respectively arranged between plural heating coils 3a of FIG. 1. Also, sensor type display 32a is displayed in heating selected position display 32 shown in FIG. 4. Sensor type display 32a displays a type of temperature sensor arranged at the selected heating position. Sensor type display 32a indicates, for example, a temperature zone that can be detected. If the temperature sensor being arranged can detect a wide temperature zone, sensor type display 32a displays "sensor+" inside heating selected position display 32. On the other hand, if the temperature sensor being arranged detects a narrow temperature zone, sensor type display 32a displays "sensor" inside heating selected position display 32. In other words, sensor type display 32a displays a difference in the types of the temperature sensor by characters. With the display by sensor type display 32a as described above, the user can easily recognize the type of the temperature sensor arranged at the selected heating position. Accordingly, the usability of induction-heating cooker 100 improves.

[0058] Heating power setting key 13 is arranged on a left end of operation part 6 displayed at the lower part of operation display unit 5 in the sheet plane of FIG. 4. When the user manipulates heating power setting key 13 to set heating power for heating cooking container H, controller 36 controls electric power supplied from inverter substrate 4 to heating coil 3a based on the heating power set using heating power setting key 13 and controls the heating power to heat cooking container H.

[0059] Temperature setting key 14 is arranged on a right side of heating power setting key 13 in the sheet plane of FIG. 4. When the user manipulates temperature setting key 14 to set the temperature for heating cooking container H, controller 36 controls the electric power supplied from inverter substrate 4 to heating coil 3a based on the temperature set using temperature setting key 14 and the temperature detected by the temperature sensor located below cooking container H, and controls the temperature to heat cooking container H.

[0060] Cooking course display key 15 is arranged on the right side of temperature setting key 14 in the sheet plane of FIG. 4. When the user manipulates cooking course display key 15, controller 36 controls operation display unit 5 to switch the display of operation display unit 5 from the heating state display of FIG. 4 to the cooking course selection display shown in FIG. 5.

[0061] Water boiling key 16 is arranged on a right end of operation part 6 displayed at the lower part of operation display unit 5 in the sheet plane of FIG. 4. When the user manipulates water boiling key 16, controller 36 controls electric power supplied from inverter substrate 4 to heating coil 3a based on the temperature detected by the temperature sensor located below cooking container H, and boils water contained in cooking container H. Further, controller 36 controls the electric power supplied to heating coil 3a based on the temperature detected by the temperature sensor, and maintains the boiled water in cooking container H at constant temperature.

2-3. Cooking course selection display

[0062] FIG. 5 shows the cooking course selection display. In the heating state display of FIG. 4, when cooking course display key 15 is manipulated, the cooking course selection display shown in FIG. 5 is displayed in operation display unit 5. The cooking course selection display displays plural cooking courses that can be cooked at the heating position selected by the user. The cooking course selection display is manipulated when the user selects a desired cooking course from the plural cooking courses. In other words, the cooking course selection display receives selection of the cooking course.

[0063] In the cooking course selection display, operation display unit 5 displays, as operation part 6, cooking course selection keys 17, first forward feed key 18, first reverse feed key 19, initial letter selection key 20, and selection display finish key 21. In other words, each of cooking course selection keys 17 receives selection of the cooking course. First forward feed key 18 is manipulated when the user forward-feeds the plural cooking courses displayed in display part 31. First reverse feed key 19 is manipulated when the user reverse-feeds the plural cooking courses displayed in display part 31. Initial letter selection key 20 is manipulated when the user selects an initial letter of the cooking course. Selection display finish key 21 is manipulated when the cooking course selection display is to be finished.

[0064] Further, among operation part 6 displayed in the cooking course selection display, initial letter selection key 20 and selection display finish key 21 are displayed in a row along the left-and-right direction of operation display unit 5 at a lower part of operation display

unit 5 in a sheet plane of FIG. 5.

[0065] In the cooking course selection display, among the plural cooking courses, the cooking courses that can be used in the heating position selected by the user are displayed in display part 31 of operation display unit 5. Here, the plural cooking courses are pre-stored in controller 36 according to types of cooking material that can be cooked by induction-heating cooker 100. Further, the plural cooking courses are displayed in display part 31 in an alphabetical order according to the initial letters of the respective cooking courses. Still further, when there are plural cooking courses that can be used at the selected heating position, controller 36 causes display part 31 to display only a predetermined number of cooking courses among the plural cooking courses. In response to the manipulation of first forward feed key 18 or first reverse feed key 19, controller 36 also causes display part 31 to display other cooking courses by forward-feeding or reverse-feeding the cooking courses displayed in display part 31.

[0066] Plural cooking course selection keys 17 are arranged so as to correspond to the respective cooking courses displayed in display part 31. The user can search for a cooking course used to cook the cooking material contained in cooking container H from among the plural cooking courses displayed in display part 31, and select the cooking course by touching the display of the cooking course to be used.

[0067] First forward feed key 18 and first reverse feed key 19 are displayed in a column on a right side in the sheet plane of FIG. 5 of the plural cooking courses displayed in display part 31. When the user manipulates first forward feed key 18 or first reverse feed key 19, controller 36 controls operation display unit 5 based on the manipulation by the user, and forward-feeds or reverse-feeds the cooking courses displayed in display part 31.

[0068] Specifically, as shown in FIG. 5, there are four cooking courses which are "Bolonese sauce, simmering", "Burgers", "Canned foods, heating", and "Casserole, simmering" displayed in display part 31 as the cooking courses that can be used at the selected heating position. When the user manipulates first forward feed key 18 once in this state, controller 36 performs control not to display the cooking course "Bolonese sauce, simmering" displayed at an uppermost part among the four cooking courses displayed in display part 31. Also, controller 36 moves a displayed position of each of three cooking courses, "Burgers", "Canned foods, heating", and "Casserole, simmering", upward by one position. Further, controller 36 causes a cooking course whose name appears first after "Casserole, simmering" in the alphabetical order to be displayed, from among the cooking courses that can be used at the selected heating position, at the position where the cooking course "Casserole, simmering" had been displayed in a state of FIG. 5 (in a state before the user manipulates first forward feed key 18 once).

[0069] In other words, when the user manipulates first forward feed key 18 once in the state of FIG. 5, controller 36 forward-feeds the display of the plural cooking courses in display part 31 to cause display part 31 to display, from the state of FIG. 5, four cooking courses which are "Burgers", "Canned foods, heating", "Casserole, simmering", and the cooking course appearing first after "Casserole, simmering".

[0070] On the other hand, when the user manipulates first reverse feed key 19 once in the state in which the four cooking courses, "Burgers", "Canned foods, heating", "Casserole, simmering", and the cooking course appearing first after "Casserole, simmering", are displayed in display part 31, controller 36 performs control not to display the cooking course appearing first after "Casserole, simmering" displayed at a lowermost part among the four cooking courses displayed in display part 31. Also, controller 36 moves the displayed position of each of the three cooking courses, "Burgers", "Canned foods, heating", and "Casserole, simmering", downward by one position before the three cooking courses are displayed. Further, controller 36 causes a cooking course whose name appears first before "Burgers" in the alphabetical order (in the displayed example shown in FIG. 5, "Bolonese sauce, simmering") to be displayed, from among the cooking courses that can be used at the selected heating position, at the position where the cooking course "Burgers" had been displayed in a state before the user manipulates first reverse feed key 19 once.

[0071] In other words, when the user manipulates first reverse feed key 19 once in the state in which the four cooking courses, "Burgers", "Canned foods, heating", "Casserole, simmering", and the cooking course appearing first after "Casserole, simmering", are displayed in display part 31, controller 36 reverse-feeds the display of the plural cooking courses displayed in display part 31 to shift from the state in which the four cooking courses, "Burgers", "Canned foods, heating", "Casserole, simmering", and the cooking course appearing first after "Casserole, simmering", are displayed in display part 31, to the state in which four cooking courses, a cooking course appearing first before "Burgers" ("Bolonese sauce, simmering" in the displayed example shown in FIG. 5), "Burgers", "Canned foods, heating", and "Casserole, simmering" are displayed in display part 31.

[0072] Moreover, initial letter selection key 20 shown in FIG. 5 is displayed at the lower part of operation display unit 5 in the sheet plane of FIG. 5. Initial letter selection key 20 includes second forward feed key 20a for forward-feeding display of an initial letter of the plural cooking courses displayed in display part 31, and second reverse feed key 20b for reverse-feeding the display of the initial letter of the plural cooking courses displayed in display part 31. Initial letter selection key 20 also includes initial letter display part 33 arranged between second forward feed key 20a and second reverse feed key 20b. In initial letter display part 33, the initial alphabet letter of the plural cooking courses is displayed. When the user manipu-

lates second forward feed key 20a or second reverse feed key 20b, controller 36 controls operation display unit 5 based on the manipulation by the user, and forward-feeds or reverse-feeds the initial letter of the cooking courses displayed in initial letter display part 33.

[0073] Specifically, when the user manipulates second forward feed key 20a once to select "C" as the initial letter of the cooking course, in a state in which the four cooking courses, "Bolonese sauce, simmering", "Burgers", "Canned foods, heating", and "Casserole, simmering" are displayed in display part 31, as the cooking courses that can be used at the selected heating position, controller 36 performs control not to display the cooking courses "Bolonese sauce, simmering" and "Burgers" whose initial letter is "B", among the cooking courses displayed in display part 31. Also, controller 36 moves the displayed position of each of the cooking courses, "Canned foods, heating" and "Casserole, simmering", the cooking courses whose initial letters being "C", upward by two positions before the cooking courses are displayed. Further, controller 36 causes a cooking course whose name appears first after "Casserole, simmering" in the alphabetical order and a cooking course whose name appears second after the "Casserole, simmering" in the alphabetical order to be displayed, among the cooking courses that can be used at the selected heating position, at the positions where the cooking courses "Canned foods, heating" and "Casserole, simmering" were displayed in a state of FIG. 5 (in a state before the user manipulates second forward feed key 20a once).

[0074] In other words, when the user manipulates second forward feed key 20a, controller 36 causes the initial letter of the cooking course displayed at a center part of initial letter display part 33 to be sequentially displayed in an order from A, B, C, ..., to Z according to a number of times the user manipulates second forward feed key 20a. Further, when the user manipulates second forward feed key 20a to select an initial letter of the cooking course, controller 36 causes display part 31 to display the cooking course having the initial letter selected by the user. At this time, controller 36 causes display part 31 to display, at the uppermost part, the cooking course whose name appears first in the alphabetical order, among the cooking courses having the initial letter selected by the user.

[0075] On the other hand, in a state in which the user has selected "C" as the initial letter of the cooking course and "Canned foods, heating", "Casserole, simmering", the cooking course appearing first after "Casserole, simmering", and the cooking course appearing second after "Casserole, simmering" are displayed in display part 31, when the user manipulates second reverse feed key 20b once to select "B" as the initial letter of the cooking course, controller 36 causes display part 31 to display the cooking course "Bolonese sauce, simmering" whose initial letter is "B", the cooking course "Burgers" whose initial letter is "B", a cooking course whose name appears first after "Burgers" in the alphabetical order (the cooking course "Canned foods, heating" in the displayed example of FIG. 5), and a cooking course whose name appears second after "Burgers" in the alphabetical order (the cooking course "Casserole, simmering" in the displayed example of FIG. 5).

[0076] In other words, when the user manipulates second reverse feed key 20b, controller 36 causes the initial letter of the cooking course displayed at the center part of initial letter display part 33 to be sequentially displayed in an order from Z, Y, X, ..., to A according to a number of times the user manipulates second reverse feed key 20b. Further, when the user manipulates second reverse feed key 20b to select the initial letter of the cooking course, controller 36 causes display part 31 to display the cooking course having the initial letter selected by the user. At this time, controller 36 causes display part 31 to display, at the uppermost part, the cooking course whose name appears first in the alphabetical order, among the cooking courses having the initial letter selected by the user.

[0077] Selection display finish key 21 shown in FIG. 5 is displayed at a left end in the lower part of operation display unit 5 in the sheet plane of FIG. 5. When selection display finish key 21 is manipulated, controller 36 controls operation display unit 5 to finish the cooking course selection display shown in FIG. 5 and causes the heating state display shown in FIG. 4 to be displayed.

2-4. Cooking process display

[0078] FIG. 6 shows the cooking process display. When cooking course selection key 17 is manipulated in the cooking course selection display shown in FIG. 5 and a cooking course is selected, controller 36 controls operation display unit 5 to switch the display of operation display unit 5 from the cooking course selection display shown in FIG. 5 to the cooking process display of FIG. 6. In the cooking process display, plural cooking processes included in the cooking course selected by the user are displayed.

[0079] In the cooking process display, operation display unit 5 displays, as operation part 6, cooking process selection keys 22, cooking process start key 23, heating state display key 24, and cooking course selection display key 25. Cooking process selection keys 22 are manipulated when the user selects an optional cooking process from among plural cooking processes. Cooking process start key 23 receives an input for executing the cooking process selected using cooking process selection keys 22. Heating state display key 24 receives an input for finishing the cooking process display and displaying the heating state display. Cooking course selection display key 25 receives an input for finishing the cooking process display and displaying the cooking course selection display.

[0080] Among operation part 6 displayed in the cooking process display, each of cooking process selection keys 22 is displayed at a position corresponding to each of the

plural cooking processes included in the cooking course. Further, among operation part 6 displayed in the cooking process display, each of cooking process start key 23, heating state display key 24, and cooking course selection display key 25 is arranged adjacent to another one of the keys. Still further, cooking process start key 23, heating state display key 24, and cooking course selection display key 25 are arranged in a row in the left-and-right direction of operation display unit 5 at a lower part of operation display unit 5 in a sheet plane of FIG. 6.

[0081] In the cooking process display, a name of the cooking course selected by the user is displayed at an upper part of display part 31 of operation display unit 5.

[0082] Further, in the cooking process display, the plural cooking processes included in the selected cooking course is displayed in display part 31 of operation display unit 5. A number of cooking processes displayed differs depending on the cooking course. The plural cooking processes are displayed in an order of performing the cooking processes.

[0083] Each of plural cooking process selection keys 22 are arranged at the position corresponding to each of the plural cooking processes included in the cooking course. The user can select the optional cooking process from among the plural cooking processes included in the cooking course by manipulating cooking process selection key 22. Also, when the user selects the optional cooking process, controller 36 controls operation display unit 5 such that a display of cooking process selection key 22 corresponding to the selected cooking process differs from a display of other cooking process selection keys 22.

[0084] For example, in an example shown in FIG. 6, cooking process selection keys 22 are checkboxes. A checkbox corresponding to the selected cooking process is marked with a check mark. Accordingly, the display of cooking process selection key 22 corresponding to the selected cooking process differs from the display of other cooking process selection keys 22.

[0085] Cooking process start key 23 is arranged on a right end of operation part 6 displayed at the lower part of operation display unit 5 in the sheet plane of FIG. 6. When the user manipulates cooking process selection key 22, selects the optional cooking process from among the plural cooking processes, and thereafter, manipulates cooking process start key 23, the cooking process is started. In other words, based on the cooking process selected by the user, controller 36 controls electric power supplied from inverter substrate 4 to heating coil 3a and executes the cooking process selected by the user.

[0086] Also, when the optional cooking process is selected and cooking process start key 23 is manipulated, controller 36 controls operation display unit 5 to switch the display of operation display unit 5 from the cooking process display of FIG. 6 to the heating state display in a state of the user executing the optional cooking process (heating state display of FIG. 7).

[0087] Further, heating state display key 24 is arranged on a left side of cooking process start key 23 in the sheet plane of FIG. 6. When the user manipulates heating state display key 24, controller 36 controls operation display unit 5 to switch the display of operation display unit 5 from the cooking process display of FIG. 6 to the heating state display (heating state display such as of FIG. 4).

[0088] Cooking course selection display key 25 is arranged on a left end of operation part 6 displayed at the lower part of operation display unit 5 in the sheet plane of FIG. 6. When the user manipulates cooking course selection display key 25, controller 36 controls operation display unit 5 to switch the display of operation display unit 5 from the cooking process display of FIG. 6 to the cooking course selection display shown in FIG. 5.

2-5. Heating state display during execution of cooking process

[0089] FIG. 7 shows the heating state display during execution of the cooking process. In the cooking process display shown in FIG. 6, when the optional cooking process is selected using cooking process selection key 22 and cooking process start key 23 is manipulated, controller 36 controls operation display unit 5 to switch the display of operation display unit 5 from the cooking process display of FIG. 6 to the heating state display of FIG. 7.

[0090] As shown in FIG. 7, in the heating state display in the state of having the optional cooking process executed, operation display unit 5 displays, as operation part 6, heating position selection keys 7, heating condition setting key 26, cooking process explanation display key 27, time setting key 28, and first stop operation part 29.

[0091] Heating condition setting key 26 receives the input of the heating condition that can be set in the cooking process selected by the user. Cooking process explanation display key 27 is manipulated in a case of displaying an explanation of cooking process being executed. Time setting key 28 receives an input of a setting related to an execution time duration of the cooking process being executed. First stop operation part 29 receives an input of stopping the cooking process being executed.

[0092] In the heating state display shown in FIG. 7, each of heating condition setting key 26, cooking process explanation display key 27, time setting key 28, and first stop operation part 29 is arranged adjacent to another one of the keys. Further, heating condition setting key 26, cooking process explanation display key 27, time setting key 28, and first stop operation part 29 are arranged in a row in the left-and-right direction of operation display unit 5 at a lower part of operation display unit 5 in a sheet plane of FIG. 7. Heating position selection keys 7 are displayed at positions corresponding to the top plate display (display that simulates the upper surface of top plate 1b) displayed in display part 31.

[0093] Also, in the heating state display shown in FIG. 7, the top plate display and heating selected position display 32 displayed so as to match the top plate display are displayed in display part 31.

[0094] In the heating state display of FIG. 7, heating

condition display 34 is displayed inside heating selected position display 32. Heating condition display 34 displays heating condition of a cooking process being executed. Heating condition display 34 includes heating icon display 34a and set value display 34b. Heating icon display 34a displays the heating condition being executed as a graphic symbol. Set value display 34b displays a set value (such as temperature) for the heating condition being executed. Controller 36 causes operation display unit 5 to display heating icon display 34a and set value display 34b according to the heating condition being executed.

[0095] Heating condition setting key 26 is displayed at the lower part of operation display unit 5 in the sheet plane of FIG. 7. Heating condition setting key 26 includes third forward feed key 26a and third reverse feed key 26b. Third forward feed key 26a is manipulated in order to raise the set value of the heating condition (such as temperature) that can be set in the cooking process selected by the user. Third reverse feed key 26b is manipulated in order to lower the set value of the heating condition that can be set in the cooking process selected by the user. Further, heating condition setting key 26 includes set value display part 35 arranged between third forward feed key 26a and third reverse feed key 26b. Set value display part 35 displays the set value of the heating conditions that can be set in the cooking process selected by the user. When the user manipulates third forward feed key 26a or third reverse feed key 26b, controller 36 controls operation display unit 5 based on the manipulation by the user, and raises or lowers the set value displayed in set value display part 35. When the user manipulates third forward feed key 26a or third reverse feed key 26b to change the set value of the heating condition of the cooking process being executed, and the changed set value is confirmed, controller 36 causes set value display 34b of heating condition display 34 to display a set value equal to the set value displayed in set value display part 35.

[0096] Specifically, as shown in FIG. 7, when the optional cooking process is executed by the user, controller 36 controls operation display unit 5 based on the cooking process executed by the user and causes heating icon display 34a of heating condition display 34 to be displayed. Heating icon display 34a is at least one of an icon such as the one shown in FIG. 7 formed as a graphical symbol depicting the heating condition being executed and an icon indicating that cooking process selection key 22 and cooking process start key 23 are manipulated and the cooking process is being executed. Moreover, in the cooking process being executed, if the temperature to heat cooking container H can be set, controller 36 causes the temperature currently set in the cooking process being executed (160°C in the displayed example shown in FIG. 7) to be displayed in set value display 34b of heating condition display 34 and in set value display part 35.

[0097] When the user manipulates third forward feed key 26a once in a state in which the temperature set in the cooking process being executed is displayed, controller 36 causes set value display part 35 to display the temperature raised according to a number of times the user manipulates third forward feed key 26a (170°C in the displayed example shown in FIG. 7). On the other hand, when the user manipulates third reverse feed key 26b once in the state in which the temperature set in the cooking process being executed is displayed, controller 36 causes set value display part 35 to display the temperature lowered according to a number of times the user manipulates third reverse feed key 26b (150°C in the displayed example shown in FIG. 7).

[0098] After the user manipulates third forward feed key 26a or third reverse feed key 26b to change the set value of the heating condition of the cooking process being executed, if third forward feed key 26a or third reverse feed key 26b is not manipulated for a predetermined time duration, controller 36 confirms the set value of the heating condition changed by the user. Controller 36 also controls heater 2 based on the confirmed set value and heats cooking container H. Further, after the changed set value is confirmed, controller 36 causes set value display 34b of heating condition display 34 to display a set value equal to the set value being displayed in set value display part 35.

[0099] In other words, when the user manipulates third forward feed key 26a or third reverse feed key 26b, controller 36 raises or lowers the temperature displayed in set value display part 35 according to the number of times the user manipulates third forward feed key 26a or third reverse feed key 26b. After the set value of the heating condition of the cooking process being executed is changed, if third forward feed key 26a or third reverse feed key 26b is not manipulated for the predetermined time duration, controller 36 also confirms the set value changed by the user. Thereafter, controller 36 executes the cooking process based on the confirmed set value. Further, after the changed set value is confirmed, controller 36 causes set value display 34b of heating condition display 34 to display the confirmed set value, that is, a set value equal to the set value being displayed in set value display part 35.

[0100] Note that the set value of the heating condition of the cooking process being executed is configured to be able to be raised or lowered by a pre-set interval (by 10°C in the displayed example shown in FIG. 7) within a pre-set range.

[0101] The description returns to each of the keys in FIG. 7. Cooking process explanation display key 27 is displayed at a right side of heating condition setting key 26 in the sheet plane of FIG. 7. When the user manipulates cooking process explanation display key 27, controller 36 controls operation display unit 5 to switch the display of operation display unit 5 from the heating state display of FIG. 7 to a display of a specific explanation of the cooking process being executed. Note that the display of the specific explanation of the cooking process being executed may be the same as the cooking process display shown in FIG. 6, and alternatively, may be differ-

ent from the cooking process display shown in FIG. 6.

[0102] Time setting key 28 is displayed at the right side of cooking process explanation display key 27 in the sheet plane of FIG. 7. When the user manipulates time setting key 28, controller 36 controls operation display unit 5 to display, as operation part 6, a key that allows the user to set the execution time duration of the cooking process being executed. When the execution time duration of the cooking process is set, controller 36 also controls heater 2 until the set execution time duration ends and executes the cooking process. When the execution time duration set by the user ends, controller 36 further controls heater 2 to stop the cooking process being executed.

[0103] First stop operation part 29 is displayed on a left end at the lower part of operation display unit 5 in the sheet plane of FIG. 7. When the user manipulates first stop operation part 29, controller 36 controls heater 2 to stop the cooking process being executed. Further, when the user manipulates first stop operation part 29, controller 36 controls operation display unit 5 to switch the display of operation display unit 5 from the heating state display of FIG. 7 (heating state display in the state of the optional cooking process being executed) to the cooking process display of FIG. 6. This switching operation will be described in detail in "3. Operation" topic.

2-6. "OFF" display in a case of manipulating second stop operation part

[0104] In the heating state display of FIG. 7, when third reverse feed key 26b of heating condition setting key 26 is manipulated, "OFF" display is indicated as shown in FIG. 8 in set value display part 35 of FIG. 7. In other words, induction-heating cooker 100 can have a set value "OFF" as a lower limit value of the set value of the heating condition of the cooking process being executed. That is, at least a part of heating condition setting key 26 functions as second stop operation part 30 for stopping the cooking course being executed. After "OFF" is selected by the user, if third forward feed key 26a or third reverse feed key 26b is not manipulated for the predetermined time duration, controller 36 controls heater 2 to finish the cooking course being executed.

3. Operation

[0105] Referring further to FIGS. 9 to 11, operation of induction-heating cooker 100 is described.

[0106] FIG. 9 is a diagram showing an example of the cooking process display of the operation display unit of the induction-heating cooker in the first exemplary embodiment of the present invention, in a state in which the first stop operation part is manipulated and a cooking process succeeding the cooking process being stopped is selected. FIG. 10 is a diagram showing an example of the cooking process display of the operation display unit in the induction-heating cooker in the first exemplary embodiment of the present invention, in a state of the first stop operation part being manipulated and a final cooking process being selected. FIG. 11 is a diagram showing an example of the heating state display of the operation display unit of the induction-heating cooker in the first exemplary embodiment of the present invention, in a state of the final cooking process being executed.

[0107] When the user turns power of induction-heating cooker 100 ON, controller 36 controls operation display unit 5 to cause the heating state display as shown in FIG. 3 to be displayed. In the heating state display of FIG. 3, the heating state of cooking container H placed on the upper surface of top plate 1b can be confirmed. Further, the heating state display of FIG. 3 is the display that receives the setting of the heating condition of cooking container H.

[0108] The heating state display shown in FIG. 3 is the display in the state in which the heating position has not been selected yet by the user. In the heating state display of FIG. 3, controller 36 causes operation display unit 5 to display operation part 6 including heating position selection keys 7, cleaning mode selection key 8, help key 9, timer key 10, setting key 11, and lock key 12. Further, in the heating state display of FIG. 3, controller 36 causes display part 31 of operation display unit 5 to display the top plate display (display that simulates the upper surface of top plate 1b).

[0109] When the user manipulates heating position selection key 7 to select the heating position for heating cooking container H, controller 36 controls operation display unit 5 to switch the display of operation display unit 5 from the heating state display in the state of the heating position not being selected (heating state display shown in FIG. 3) to the heating state display in the state of the heating position being selected (heating state display shown in FIG. 4).

[0110] In the heating state display shown in FIG. 4, controller 36 causes operation display unit 5 to display operation part 6 including heating position selection keys 7, heating power setting key 13, temperature setting key 14, cooking course display key 15, and water boiling key 16. Also, in the heating state display shown in FIG. 4, controller 36 causes heating selected position display 32 to be displayed so as to match the top plate display. Controller 36 also causes sensor type display 32a displaying the type of the temperature sensor arranged at the heating position to be displayed inside heating selected position display 32.

[0111] In the heating state display shown in FIG. 4, when the user manipulates heating power setting key 13 to set heating power for heating cooking container H, controller 36 controls electric power supplied from inverter substrate 4 to heating coil 3a based on the set heating power, and heats cooking container H. Note that in induction-heating cooker 100 of the first exemplary embodiment, the heating power is pre-set as a number corresponding to the electric power supplied from inverter substrate 4 to heating coil 3a, for example, a minimum

value of the electric power supplied from inverter substrate 4 to heating coil 3a is set to "1", and a maximum value of the electric power supplied from inverter substrate 4 to heating coil 3a is set to "9". Accordingly, the user can set the heating power for heating cooking container H by selecting an optional number using heating power setting key 13.

[0112] Also, when the user manipulates temperature setting key 14 to set the temperature for heating cooking container H, controller 36 controls the electric power supplied from inverter substrate 4 to heating coil 3a based on the temperature set using temperature setting key 14 and the temperature detected by the temperature sensor located below cooking container H, and controls the temperature to heat cooking container H.

[0113] Further, when the user selects water boiling key 16, controller 36 controls the electric power supplied from inverter substrate 4 to heating coil 3a based on the temperature detected by the temperature sensor located below cooking container H, and boils water contained in cooking container H. Controller 36 also controls inverter substrate 4 to keep the boiled water at a constant temperature.

[0114] Also, when the user manipulates cooking course display key 15, controller 36 controls operation display unit 5 to switch the display of operation display unit 5 from the heating state display in the state of the heating position of cooking container H being selected (display of the heating state display shown in FIG. 4) to the cooking course selection display of FIG. 5.

[0115] As shown in FIG. 5. in the cooking course selection display, controller 36 causes operation display unit 5 to display, as operation part 6, cooking course selection keys 17, first forward feed key 18, first reverse feed key 19, initial letter selection key 20, and selection display finish key 21. Further, in the cooking course selection display, controller 36 arranges the plural cooking courses that can be used at the selected heating position in the alphabetical order of the names of the cooking courses and causes display part 31 to display the cooking courses.

[0116] In the cooking course selection display, the user can forward-feed or reverse-feed the cooking courses displayed in display part 31 by manipulating first forward feed key 18 or first reverse feed key 19. According to the number of times the user manipulates first forward feed key 18 or first reverse feed key 19, controller 36 forward-feeds or reverse-feeds the cooking courses displayed in display part 31 and causes display part 31 to display the cooking courses.

[0117] Further, in the cooking course selection display, the user manipulates second forward feed key 20a or second reverse feed key 20b of initial letter selection key 20 to forward-feed or reverse-feed the initial letter of the name of the cooking course displayed in initial letter display part 33. According to the number of times the user manipulates second forward feed key 20a or second reverse feed key 20b, controller 36 forward-feeds or reverse-feeds the initial letter of the name of the cooking course displayed in initial letter display part 33. Controller 36 also causes one or more cooking courses having the initial letter selected by the user to be displayed.

[0118] Also, in the cooking course selection display, plural cooking course selection keys 17 are arranged so as to correspond to the respective plural cooking courses displayed in display part 31. The user can search for an optional cooking course from among the plural cooking courses displayed in display part 31 and touch the cooking course to be executed to select the cooking course. Thereafter, when the optional cooking course is selected, controller 36 controls operation display unit 5 to switch the display of operation display unit 5 from the cooking course selection display of FIG. 5 to the cooking process display of FIG. 6.

[0119] In other words, in the cooking course selection display shown in FIG. 5, the user can easily select a desired cooking course from among the plural cooking courses by manipulating cooking course selection keys 17, first forward feed key 18, first reverse feed key 19, and initial letter selection key 20. Accordingly, the usability of induction-heating cooker 100 improves.

[0120] Hereinafter, a description is made of a case in the cooking course selection display of FIG. 5, in which the user selects the cooking course "Bolognese sauce, simmering" as the cooking course of cooking container H.

[0121] In the cooking course selection display of FIG. 5, when the user manipulates cooking course selection key 17 to select the cooking course "Bolognese sauce, simmering", controller 36 controls operation display unit 5 to display the cooking process display displaying plural cooking processes included in the cooking course "Bolognese sauce, simmering" as shown in FIG. 6.

[0122] In the cooking process display of FIG. 6, controller 36 causes operation display unit 5 to display, as operation part 6, cooking process selection keys 22, cooking process start key 23, heating state display key 24, and cooking course selection display key 25. Further, in the cooking process display, controller 36 causes the three cooking processes included in "Bolognese sauce, simmering" in display part 31. The three cooking processes are "Pan Frying Mode (160-180°C) Preheat the pot; add the meat, vegetables and fly." (hereinafter, referred to as a "first cooking process"), "Manual mode Add the other ingredients and bring to a boil." (hereinafter, referred to as a "second cooking process"), and "Low Temperature Mode (95-105°C) Simmer for 30-90 minutes." (hereinafter, referred to as a "third cooking process").

[0123] In the cooking process display, plural cooking process selection keys 22 are displayed so as to correspond to the first cooking process, the second cooking process, and the third cooking process, respectively. Therefore, the user can easily select the optional cooking process by manipulating cooking process selection key 22 corresponding to the cooking process that the user wishes to execute from among the plural cooking proc-

esses. Accordingly, the usability of induction-heating cooker 100 improves.

[0124] As shown in FIG. 6, for example, when the user selects the first cooking process and manipulates cooking process start key 23, controller 36 controls heater 2 based on a heating condition that is pre-set as the first cooking process and executes the first cooking process.

[0125] When the first cooking process is executed, controller 36 controls operation display unit 5 to switch the display of operation display unit 5 from the cooking process display to the heating state display in a state of the first cooking process being executed (heating state display of FIG. 7).

[0126] In other words, when the user inputs an instruction for executing the first cooking process, as shown in FIG. 7, controller 36 causes operation display unit 5 to display, as operation part 6, heating position selection keys 7, heating condition setting key 26, cooking process explanation display key 27, time setting key 28, and first stop operation part 29. Also, when the user inputs the instruction for executing the first cooking process, controller 36 causes display part 31 to display the top plate display and heating selected position display 32. Controller 36 also causes heating condition display 34 indicating the heating condition in the first cooking process being executed to be displayed, inside heating selected position display 32. Heating condition display 34 includes heating icon display 34a. Heating condition display 34 also includes set value display 34b. Set value display 34b is a display of a temperature (160°C) for heating cooking container H, the temperature being the heating condition currently being set, in the first cooking process being executed. With heating condition display 34 as described above, the user can easily confirm the heating condition currently being set in the cooking process being executed, and thereby the usability of the induction-heating cooker improves.

[0127] As shown in FIG. 7, in the first cooking process being executed, heating condition setting key 26 receives a change in the temperature for heating cooking container H within a pre-set range. Therefore, the user can change the temperature currently being set to an optional temperature by manipulating third forward feed key 26a or third reverse feed key 26b of heating condition setting key 26. With this configuration, the user can change the heating condition in the pre-set cooking process according to preference of the user, and thereby the degree of freedom in cooking improves.

[0128] When the user manipulates third forward feed key 26a or third reverse feed key 26b, controller 36 controls operation display unit 5 according to the number of times the user manipulates third forward feed key 26a or third reverse feed key 26b, and raises or lowers the set value (temperature) displayed in set value display part 35. After the set value is changed, if third forward feed key 26a or third reverse feed key 26b is not manipulated for a predetermined time duration, controller 36 confirms the changed set value (temperature), and executes the first cooking process based on the confirmed set value. Then, after the changed set value (temperature) is confirmed, controller 36 causes heating condition display 34 to also display the confirmed set value.

[0129] Here, in the state of the first cooking process being executed, when the user manipulates first stop operation part 29, controller 36 controls heater 2 to stop the first cooking process being executed. With this configuration, the cooking process being executed can be temporarily stopped. Further, controller 36 determines whether there is a cooking process succeeding the first cooking process (for example, the second cooking process). If controller 36 determines that there is the second cooking process, as shown in FIG. 9, controller 36 causes operation display unit 5 to display the cooking process display in a state of the second cooking process being selected.

[0130] In the cooking process display of FIG. 9, when cooking process start key 23 is manipulated in the state of the second cooking process being selected, controller 36 controls heater 2 and executes the selected cooking process (second cooking process). Controller 36 also controls operation display unit 5 to switch the display of operation display unit 5 from the cooking process display of FIG. 9 to the heating state display in a state of the second cooking process being executed.

[0131] On the other hand, when the user manipulates first stop operation part 29 during execution of the first cooking process and operation display unit 5 displays the cooking process display of FIG. 9, if the user wishes to execute the first cooking process again, the user can manipulate cooking process selection key 22 corresponding to the first cooking process and select the first cooking process. Thereafter, when the user manipulates cooking process start key 23, controller 36 controls heater 2 based on the first cooking process and executes the first cooking process again.

[0132] In the state of the second cooking process being executed, when the user manipulates first stop operation part 29, controller 36 controls heater 2 and stops the second cooking process being executed.

[0133] Then, controller 36 determines whether there is a cooking process succeeding the second cooking process (for example, the third cooking process). If it is determined that there is the third cooking process, as shown in FIG. 10, controller 36 causes operation display unit 5 to display the cooking process display in a state of the third cooking process being selected. When the user manipulates cooking process start key 23 in this state, controller 36 controls heater 2 and executes the third cooking process again.

[0134] When the third cooking process is executed, controller 36 controls operation display unit 5 to switch the display of operation display unit 5 from the cooking process display of FIG. 10 to the heating state display shown in FIG. 11 (heating state display in a state of the third cooking process being executed).

[0135] As shown in FIG. 11, when the third cooking

process is executed, controller 36 causes operation display unit 5 to display, as operation part 6, heating position selection keys 7, heating condition setting key 26, cooking process explanation display key 27, time setting key 28, and first stop operation part 29. Further, when the third cooking process is executed, controller 36 causes display part 31 to display heating selected position display 32. Still further, controller 36 causes the heating condition in the third cooking process being executed to be displayed as heating condition display 34, inside heating selected position display 32. Heating condition display 34 includes at least one of an icon such as the one shown in FIG. 11 depicting the third cooking process being executed as a graphical symbol, and an icon indicating that the third cooking process is being executed. Heating condition display 34 also includes set value display 34b. Set value display 34b indicates a temperature (100°C) for heating cooking container H, the temperature being the heating condition currently being set, in the third cooking process being executed. Further, as shown in FIG. 11, induction-heating cooker 100 is configured to allow the user to change the temperature for heating cooking container H within a pre-set range. The user can change the temperature currently being set to an optional temperature by manipulating third forward feed key 26a or third reverse feed key 26b.

[0136] In the state of the third cooking process being executed, when first stop operation part 29 is manipulated, controller 36 controls heater 2 and stops the third cooking process being executed.

[0137] Then, controller 36 determines whether there is a cooking process succeeding the third cooking process. If controller 36 determines that there is no cooking process succeeding the third cooking process, controller 36 causes operation display unit 5 to display the cooking process display in the state in which the third cooking process being stopped is selected as shown in FIG. 10.

[0138] With this configuration, the user can stop the cooking process being executed only by manipulating first stop operation part 29. Then, in induction-heating cooker 100 of the first exemplary embodiment, if there is a cooking process succeeding the cooking process being stopped, the succeeding cooking process is automatically selected. Accordingly, the user can execute the succeeding cooking process only by manipulating cooking process start key 23. On the other hand, in induction-heating cooker 100 of the first exemplary embodiment, if there is no cooking process succeeding the cooking process being stopped, the cooking process being stopped is automatically selected. Accordingly, the user can execute the cooking process being stopped again only by manipulating cooking process start key 23. Additionally, the user can select the optional cooking process from the cooking process display by manipulating first stop operation part 29 to cause operation display unit 5 to display the cooking process display of FIG. 10 and then manipulating cooking process selection key 22.

[0139] The user can also change the heating condition within the range pre-set in each cooking process by manipulating heating condition setting key 26 during execution of the first cooking process, second cooking process, or third cooking process. Accordingly, the degree of freedom in cooking improves. Also, the usability of induction-heating cooker 100 improves.

[0140] On the other hand, as shown in FIG. 8, in the state of the first cooking process, second cooking process, or third cooking process being executed, when the user manipulates third reverse feed key 26b to select "OFF", heating condition setting key 26 functions as second stop operation part 30. After "OFF" is selected by the user, if third forward feed key 26a or third reverse feed key 26b is not manipulated for the predetermined time duration, controller 36 finishes "Bolognese sauce, simmering" which is the cooking course being executed. Further, when the user manipulates second stop operation part 30 (selects "OFF" using third reverse feed key 26b) and the cooking course being executed is finished, controller 36 controls operation display unit 5 to cause operation display unit 5 to display the heating state display shown in FIG. 4.

[0141] With this configuration, the user can finish the cooking course being executed only by manipulating second stop operation part 30. Also, when the user manipulates second stop operation part 30, controller 36 causes operation display unit 5 to display the heating state display. Accordingly, the user can easily confirm the heating state of the cooking container by the heating state display. The user can also set smoothly, at least one of the heating position of cooking container H, the heating condition of cooking container H, the heating position of another cooking container, and the heating condition of another cooking container through the heating state display.

4. Effects

[0142]

(1) As shown in FIG. 2, induction-heating cooker 100 of the first exemplary embodiment includes top plate 1b, heater 2, the operation unit (operation part 6 of FIG. 3), and controller 36. Cooking container H is placed on top plate 1b. Heater 2 performs induction heating on cooking container H. Operation part 6 (for example, cooking course selection keys 17 of FIG. 5 among operation part 6) receives selection of the cooking course including the plural cooking processes each corresponding to the heating condition of cooking container H. Controller 36 controls heater 2 based on the heating condition.

When the cooking course is selected, operation part 6 (for example, cooking process selection keys 22 of FIG. 6 among operation part 6) is configured to receive selection of the optional cooking process among the plural cooking processes.

Controller 36 controls heater 2 based on the heating

condition corresponding to the selected cooking process.

With this configuration, the user can cause induction-heating cooker 100 to execute the optional cooking process when selecting the cooking course. Accordingly, the degree of freedom in cooking improves. Also, the usability of induction-heating cooker 100 improves.

(2) The first exemplary embodiment includes the first stop operation part (for example, first stop operation part 29 of FIG. 7) that receives, when the cooking course is selected, the input for stopping the first cooking process being executed among the plural cooking processes. When first stop operation part 29 is manipulated during execution of the cooking process, controller 36 stops the cooking process being executed.

With this configuration, the user can temporarily stop the cooking process being executed by manipulating first stop operation part 29. Accordingly, the degree of freedom in cooking further improves. Also, the usability of induction-heating cooker 100 further improves.

(3) Moreover, in the first exemplary embodiment, when first stop operation part 29 is manipulated during execution of the cooking course, and if the cooking course includes a cooking process (hereinafter, referred to as the second cooking process for convenience of explanation, but not limited to the middle cooking process of FIG. 6) succeeding the cooking process that is stopped (hereinafter, referred to as the first cooking process for convenience of explanation, but not limited to the uppermost cooking process of FIG. 6), controller 36 sets a heating condition corresponding to the second cooking process as the heating condition. Further, if the cooking course does not include the second cooking process, that is, the first cooking process is the last cooking process in the cooking course, controller sets a heating condition corresponding to the first cooking process as the heating condition.

In other words, the user can stop the cooking process being executed by manipulating first stop operation part 29. Also, if there is a cooking process succeeding the cooking process that is stopped, the succeeding cooking process is automatically selected. Also, if there is no cooking process succeeding the cooking process that is stopped, the cooking process that is stopped is automatically selected. Accordingly, the usability of induction-heating cooker 100 utilizing the cooking course improves.

(4) The first exemplary embodiment also includes display part 31 configured to display the heating condition. Further, in the first exemplary embodiment, when the selection of the cooking course is received at operation part 6 (for example, cooking course selection keys 17 among operation part 6 of FIG. 5) and when first stop operation part (first stop operation part 29 of FIG. 7) is manipulated during execution of the cooking course, controller 36 causes display part 31 to display the plural cooking processes included in the cooking course as shown in FIG. 9 and FIG. 10.

With this configuration, the user can confirm progress of the cooking procedure or cooking process in the cooking course being executed by using operation display unit 5 including display part 31. Accordingly, the usability of induction-heating cooker 100 improves.

(5) Further, the first exemplary embodiment includes the second stop operation part (second stop operation part 30 of FIG. 8) that receives the input for finishing the cooking course during execution of the cooking course.

With this configuration, the user can finish the cooking course being executed by manipulating second stop operation part 30 regardless of how much the cooking course has progressed. Accordingly, the usability of induction-heating cooker 100 improves.

(6) Still further, in the first exemplary embodiment, when second stop operation part 30 is manipulated during execution of the cooking course, controller 36 causes display part 31 to display the heating state of the cooking container placed on the top plate as shown in FIG. 4. Controller 36 also causes operation part 6 to receive the input of the heating condition.

[0143] With this configuration, when the user finishes the cooking course being executed by manipulating second stop operation part 30, the user can confirm the heating state of cooking container H through operation display unit 5. Operation display unit 5 also displays a screen for receiving settings of the heating condition of cooking container H. Accordingly, the user can set the heating condition through operation display unit 5. As described above, in the first exemplary embodiment, the degree of freedom in cooking improves. Also, the usability of induction-heating cooker 100 improves.

5. Other exemplary embodiments

[0144] The induction-heating cooker according to the present invention has been described above based on the first exemplary embodiment, but the present invention is not limited to the above-described first exemplary embodiment.

[0145] For example, in the above-described first exemplary embodiment, the configuration is described in which operation part 6 and display part 31 are integrally arranged in operation display unit 5, but operation part 6 and display part 31 may be individually arranged in main body 1. With this configuration, an effect similar to that of the above first exemplary embodiment can also be exhibited, and the usability of induction-heating cooker 100 improves.

[0146] Also, in the first exemplary embodiment, all of

operation part 6 is constituted of a touch panel, but a part or all of operation part 6 may be constituted of at least one of mechanical push buttons and mechanical dials.

[0147] Further, in the above first exemplary embodiment, plural heating coils 3a shown in FIG. 1 are arranged proximate to each other. Also, plural heating coils 3a are arranged in a row along the front-and-rear direction of main body 1 such that the major axis of plural heating coils 3a is in the same direction as the left-and-right direction of main body 1. However, in heating coil units 3 arranged on both left and right ends of main body 1, plural heating coils 3a may respectively be arranged on the upper surface of shield plates 3b in a row along the front-and-rear direction of main body 1 such that the major axis of plural heating coils 3a is in the same direction as the left-and-right direction of main body 1. Additionally, in heating coil unit 3 arranged at a center part of main body 1, plural heating coils 3a may be arranged on the upper surface of shield plate 3b in a row along the left-and-right direction of main body 1 such that the major axis of plural heating coils 3a is in the same direction as the front-and-rear direction of main body 1. With this configuration, the effect similar to that of the above first exemplary embodiment can also be exhibited, and the usability of induction-heating cooker 100 improves.

[0148] Still further, in the above-described first exemplary embodiment, in the heating state display shown in FIG. 3, FIG. 4, FIG. 7, FIG. 8, and FIG. 11, in the cooking course selection display shown in FIG. 5, and in the cooking process selection display shown in FIG. 6, FIG. 9 and FIG. 10, each of the displayed keys of operation part 6 is arranged at the lower part of operation display unit 5. Also, each of the keys is arranged in a row along the left-and-right direction of operation display unit 5. However, position and order of arranging each of the keys displayed in the heating state display, the cooking course selection display and the cooking process selection display are not limited to those of the above-described first exemplary embodiment, and may be appropriately set according to a specification of the induction-heating cooker.

[0149] Further, in the above-described first exemplary embodiment, the configuration is described in which, as shown in sensor type display 32a of FIG. 4, the difference in the types of the temperature sensors arranged at the heating position of cooking container H selected by the user is represented by characters, and the character is displayed inside heating selected position display 32 to allow the user to visually confirm the type of the temperature sensor. However, the configuration and arrangement of the sensor type display 32a are not limited to those described above. For example, a configuration may be adopted in which a color of heating selected position display 32 is changed according to the type of the temperature sensor, the type of the temperature sensor is displayed in operation display unit 5 separately from heating selected position display 32, or the like, as long as the user can recognize the difference in the types of the temperature sensors arranged at the heating position. With this configuration, the user can easily recognize the type of the temperature sensor arranged at the heating position, and the usability of the induction-heating cooker can be improved.

[0150] Further, in the above-described first exemplary embodiment, the configuration is described in which, during the heating state display in the state of the optional cooking process being executed by the user (such as the heating state display of FIG. 7), controller 36 finishes the cooking course being executed when the user manipulates heating condition setting key 26 as the second stop operation part and selects "OFF" as the set value of the heating condition. However, the configuration and arrangement of the second stop operation part is not limited to the above. In other words, the second stop operation part may be configured as long as the input for finishing the cooking course being executed is received, in the heating state display in the state of the optional cooking process being executed. For example, the second stop operation part may be displayed as an operation key in operation display unit 5 similarly to first stop operation part 29. With this configuration, the similar effect to that of the above-described first exemplary embodiment can also be exerted, and the usability of the induction-heating cooker improves.

[0151] Also, in the above-described first exemplary embodiment, the configuration is described in which the plural cooking courses are displayed in the alphabetical order in the cooking course selection display of FIG. 5. The configuration is also described in which the user can select the initial letter of the cooking course using initial letter selection key 20. However, a method of displaying the plural cooking courses and a method of selecting the cooking course using initial letter selection key 20 are not limited to the above. For example, when the plural cooking courses are displayed in Japanese, the plural cooking courses may be displayed in an order of Japanese syllabary. Then, the initial letter of the cooking course displayed in the order of Japanese syllabary can be selected using the initial letter selection key. In either case, the method of displaying the plural cooking courses and the method of selecting the cooking course using the initial letter selection key may be set appropriately according to types of the plural cooking courses set in the induction-heating cooker. Also, with this configuration, the user can select the optional cooking course easily from among the plural cooking courses. Accordingly, the usability of the induction-heating cooker improves.

[0152] Further, in the above-described first exemplary embodiment, the configuration is described in which, during execution of the cooking process, the user can manipulate heating condition setting key 26 of FIG. 7 to change the temperature for heating the cooking container, but heating condition setting key 26 is not limited to the configuration of FIG. 7. In other words, heating condition setting key 26 may be configured in a manner as long as the heating condition for heating the cooking container can be changed according to the pre-set cooking

process. For example, a configuration may be made in which the heating power can be changed using heating condition setting key 26. In this case, the heating condition corresponds to the heating power. Also, with this configuration, the user can set an optional heating condition according to preference of the user. Accordingly, the degree of freedom in cooking utilizing the cooking course improves. Also, the usability of the induction-heating cooker improves.

[0153] Further, in the above-described first exemplary embodiment, the configuration is described, as the configuration of the induction-heating cooker, in which three positions for placing cooking container H are provided, correspondingly to the number of heating coil units 3. However, the number of heating coil units 3 and the number of positions for placing cooking container H are not necessarily equal to each other. Also, the number of positions for placing cooking container H may be one, or may be equal to or more than three. If there is only one position for placing cooking container H, the induction-heating cooker is suitable in particular for a tabletop induction-heating cooker.

[0154] Still further, in the above-described first exemplary embodiment, the induction-heating cooker has the display part, but the induction-heating cooker may not be provided with the display part. In that case, the operation unit may be at least one of mechanical buttons and mechanical dials. Further in that case, the user can select the cooking menu and cooking process by manipulating at least one of the buttons and dials.

[0155] Moreover, the top plate only needs to be provided with a surface on which the cooking container can be placed, and the entire top plate is not necessarily configured only with a flat surface.

INDUSTRIAL APPLICABILITY

[0156] According to the induction-heating cooker of the present exemplary embodiments, the degree of freedom in cooking utilizing the cooking course improves. The present exemplary embodiments can also provide the induction cooking heater having excellent usability. Accordingly, the induction-heating cooker of the present exemplary embodiments is applied in household and commercial induction-heating cookers.

REFERENCE MARKS IN THE DRAWINGS

[0157]

1: main body
1a: housing
1b: top plate
1c: operation display window unit
2: heater
3: heating coil unit
3a: heating coil
3b: shield plate
4: inverter substrate
5: operation display unit
6: operation part
7: heating position selection key
8: cleaning mode selection key
9: help key
10: timer key
11: setting key
12: lock key
13: heating power setting key
14: temperature setting key
15: cooking course display key
16: water boiling key
17: cooking course selection key
18: first forward feed key
19: first reverse feed key
20: initial letter selection key
20a: second forward feed key
20b: second reverse feed key
21: selection display finish key
22: cooking process selection key
23: cooking process start key
24: heating state display key
25: cooking course selection display key
26: heating condition setting key
26a: third forward feed key
26b: third reverse feed key
27: cooking process explanation display key
28: time setting key
29: first stop operation part
30: second stop operation part
31: display part
32: heating selected position display
32a: sensor type display
33: initial letter display part
34: heating condition display
34a: heating icon display
34b: set value display
35: set value display part
36: controller
100: induction-heating cooker

Claims

1. An induction-heating cooker comprising:

a top plate on which a cooking container is placed;
a heater performing induction heating on the cooking container;
an operation unit receiving selection of a cooking course including plural cooking processes, each of the plural cooking processes corresponding to a heating condition of the cooking container; and
a controller controlling the heater based on the heating condition,

wherein the operation unit is configured to receive selection of a cooking process among the plural cooking processes when the cooking course is selected, and
the controller controls the heater based on the heating condition corresponding to the cooking process that is selected.

2. The induction-heating cooker according to claim 1, further comprising a first stop operation part that receives, when the cooking course is selected, an input for stopping a first cooking process being executed among the plural cooking processes,
wherein when the first stop operation part is manipulated, the controller stops the first cooking process.

3. The induction-heating cooker according to claim 2, wherein
when the first stop operation part is manipulated during execution of the first cooking process,
if the cooking course includes a second cooking process succeeding the first cooking process being stopped, the controller sets a heating condition corresponding to the second cooking process as the heating condition, and
if the cooking course does not include the second cooking process, the controller sets a heating condition corresponding to the first cooking process as the heating condition.

4. The induction-heating cooker according to claim 2 or 3, further comprising a display unit configured to display the heating condition,
wherein when the operation unit receives selection of the cooking course and when the first stop operation part is manipulated during execution of the cooking course, the controller causes the display unit to display the plural cooking processes included in the cooking course.

5. The induction-heating cooker according to any one of claims 1 to 3, further comprising a second stop operation part that receives an input for finishing the cooking course during execution of the cooking course,
wherein when the second stop operation part is manipulated, the controller finishes the cooking course.

6. The induction-heating cooker according to claim 5, further comprising a display unit configured to display the heating condition,
wherein when the second stop operation part is manipulated during execution of the cooking course, the controller causes the display unit to display a heating state of the cooking container placed on the top plate, and causes the operation unit to receive an input of the heating condition.

7. The induction-heating cooker according to claims 4, further comprising a second stop operation part that receives an input for finishing the cooking course during execution of the cooking course,
wherein when the second stop operation part is manipulated, the controller finishes the cooking course.

8. The induction-heating cooker according to claim 7, wherein when the second stop operation part is manipulated during execution of the cooking course, the controller causes the display unit to display a heating state of the cooking container placed on the top plate, and causes the operation unit to receive an input of the heating condition.

FIG. 1

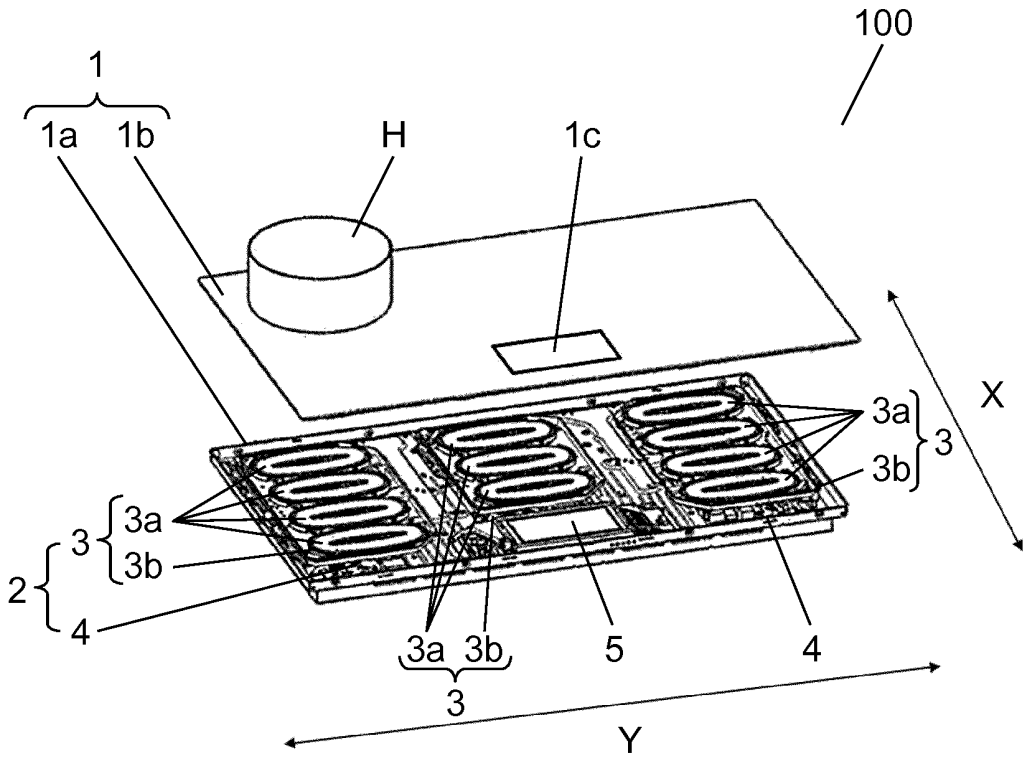

100
1
1a
1b
H
1c
X
3a
3b
3
3a
3
3b
2
4
3a
3b
5
4
3
Y

FIG. 2

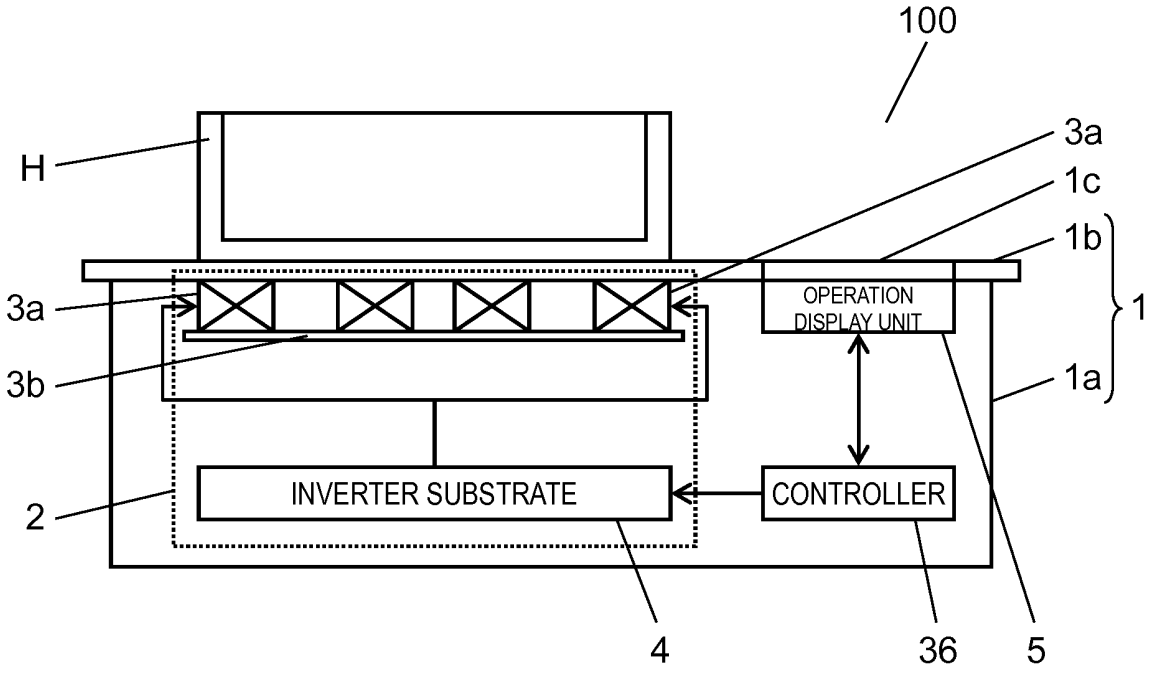

100
H
3a
1c
1b
1
3a
OPERATION DISPLAY UNIT
3b
1a
INVERTER SUBSTRATE
CONTROLLER
2
4
36
5

FIG. 3

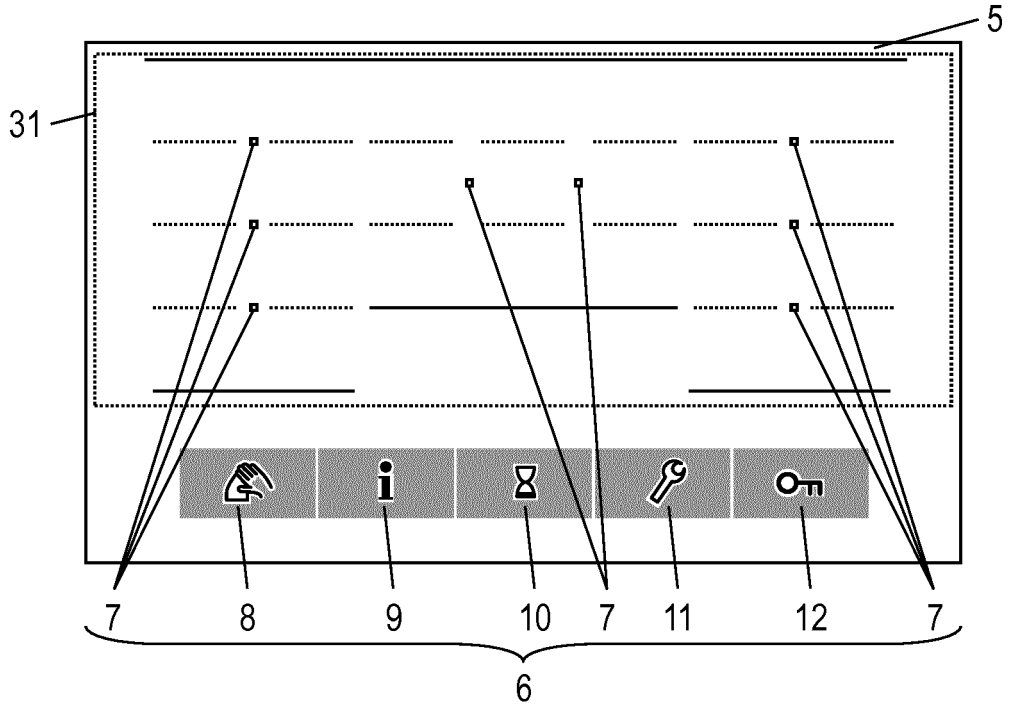

5
31
7
8
9
10
7
11
12
7
6

FIG. 4

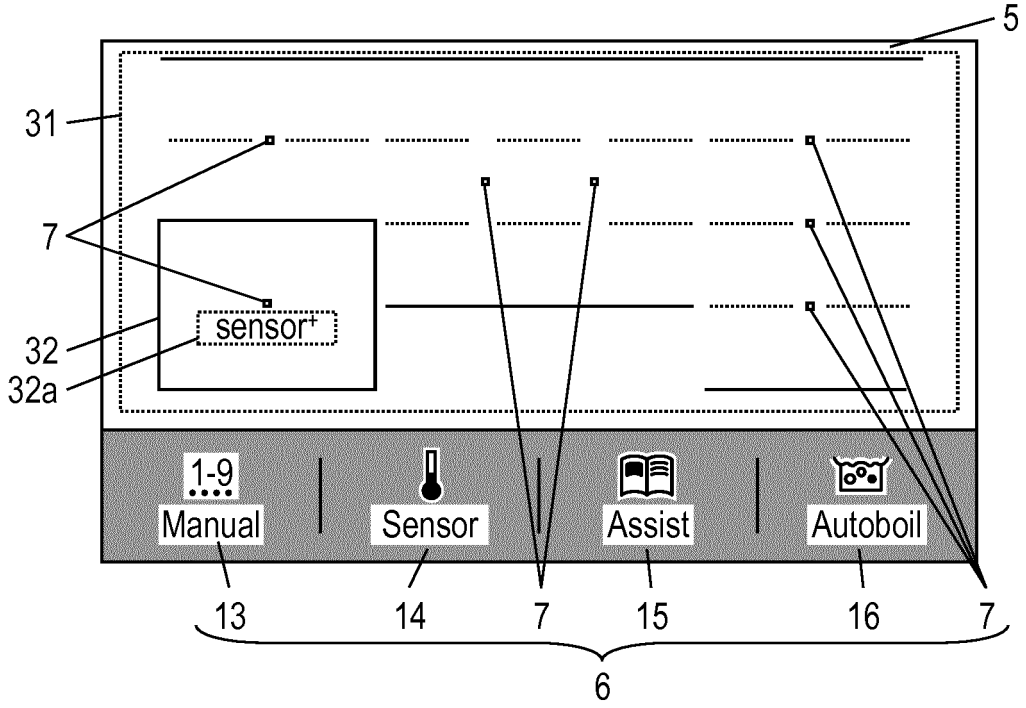

5
31
7
sensor+
32
32a
1-9
Manual
Sensor
Assist
Autoboil
13
14
7
15
16
7
6

FIG. 5

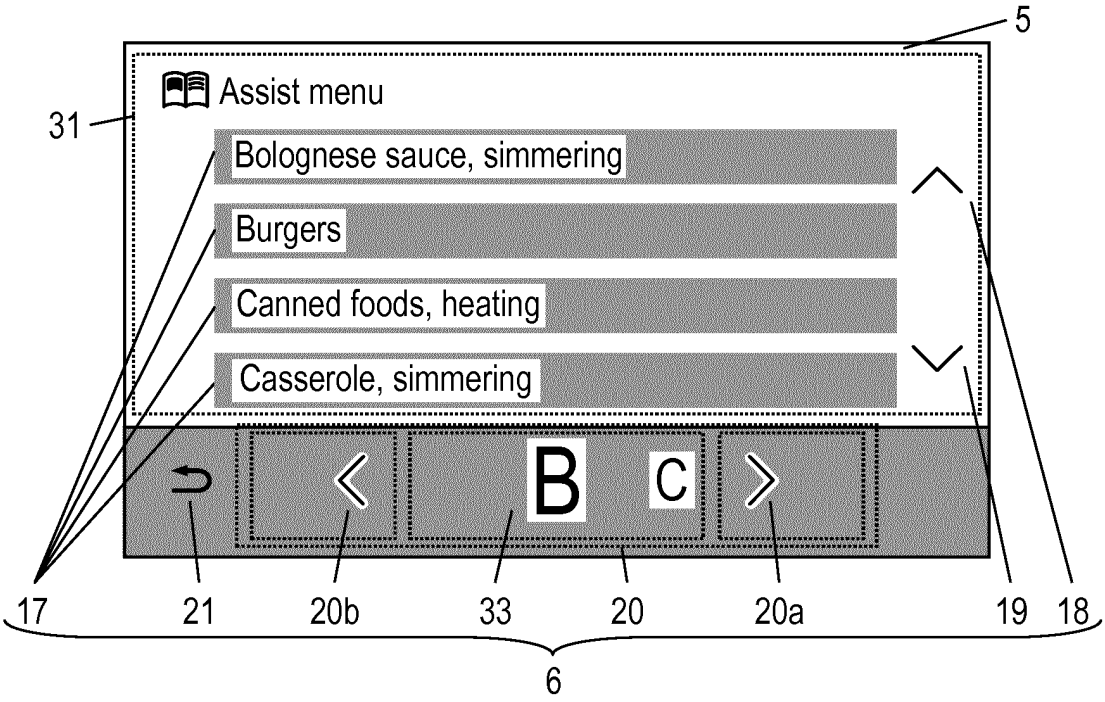

5
Assist menu
31
Bolognese sauce, simmering
Burgers
Canned foods, heating
Casserole, simmering
B
C
17
21
20b
33
20
20a
19
18
6

FIG. 6

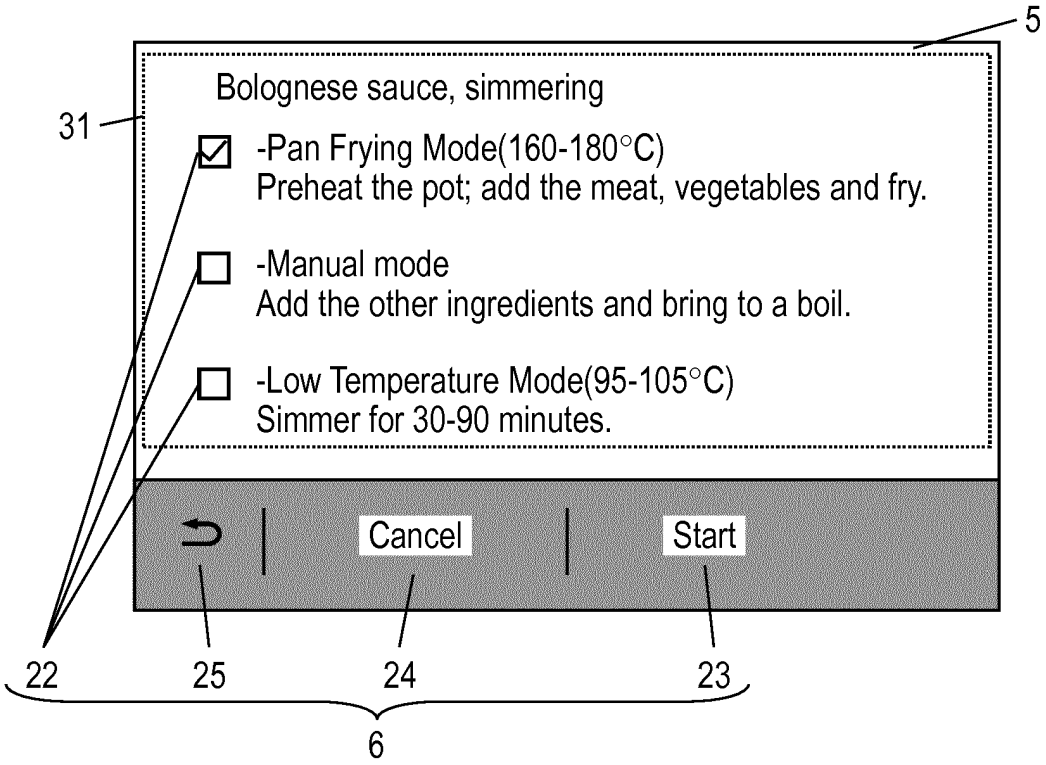

5
Bolognese sauce, simmering
31
-Pan Frying Mode(160-180°C)
Preheat the pot; add the meat, vegetables and fry.
-Manual mode
Add the other ingredients and bring to a boil.
-Low Temperature Mode(95-105°C)
Simmer for 30-90 minutes.
Cancel
Start
22
25
24
23
6

FIG. 7

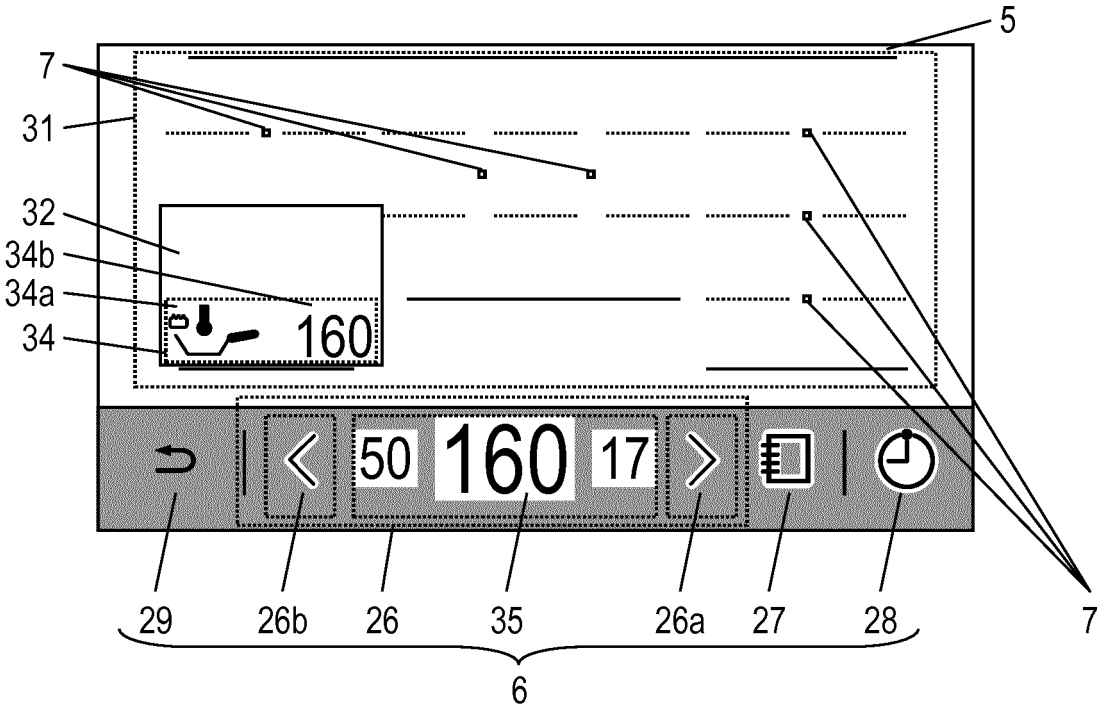

5
7
31
32
34b
34a
34
160
50
160
17
29
26b
26
35
26a
27
28
7
6

FIG. 8

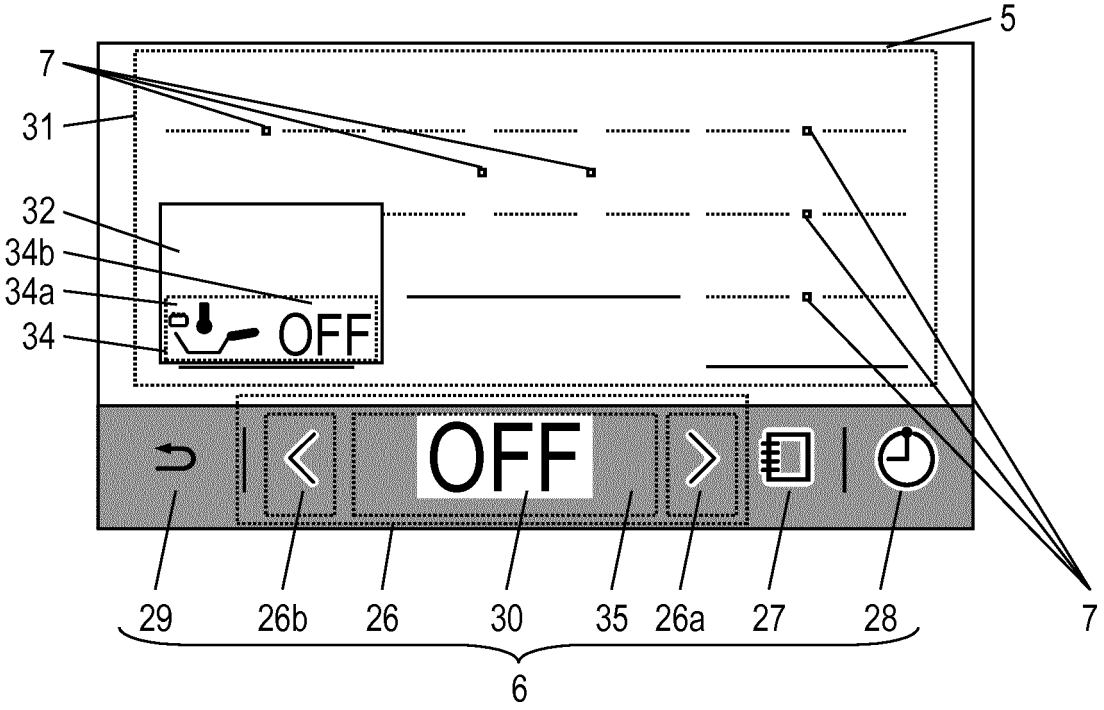

5
7
31
32
34b
34a
34
OFF
OFF
29
26b
26
30
35
26a
27
28
7
6

FIG. 9

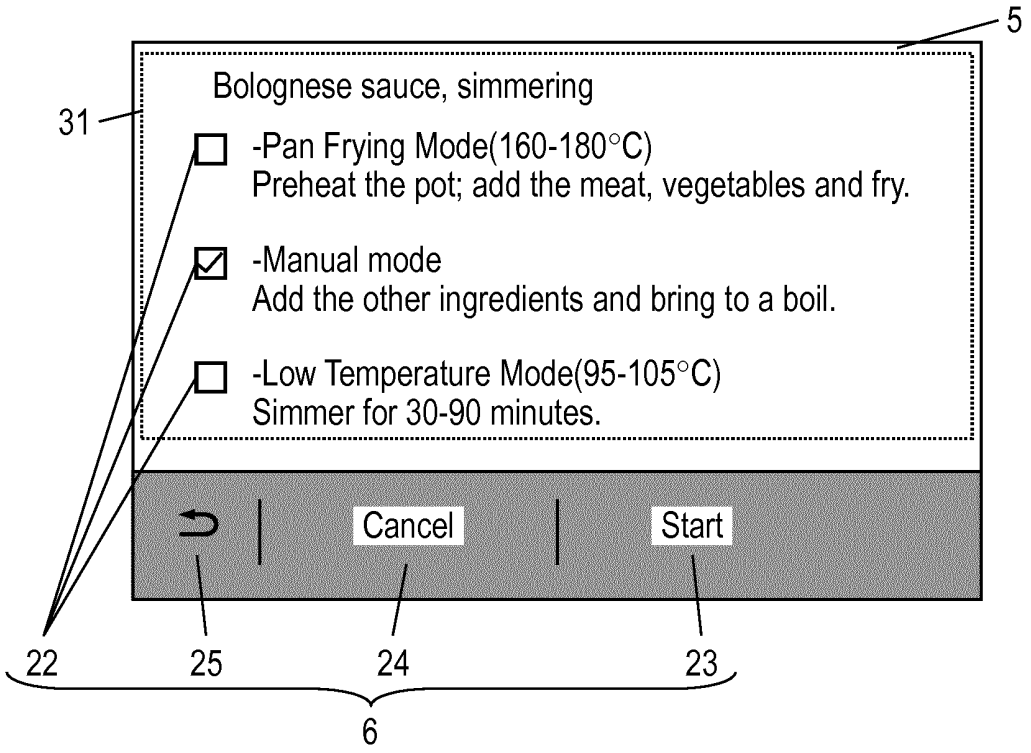

5
Bolognese sauce, simmering
31
-Pan Frying Mode(160-180°C)
Preheat the pot; add the meat, vegetables and fry.
-Manual mode
Add the other ingredients and bring to a boil.
-Low Temperature Mode(95-105°C)
Simmer for 30-90 minutes.
Cancel
Start
22
25
24
23
6

FIG. 10

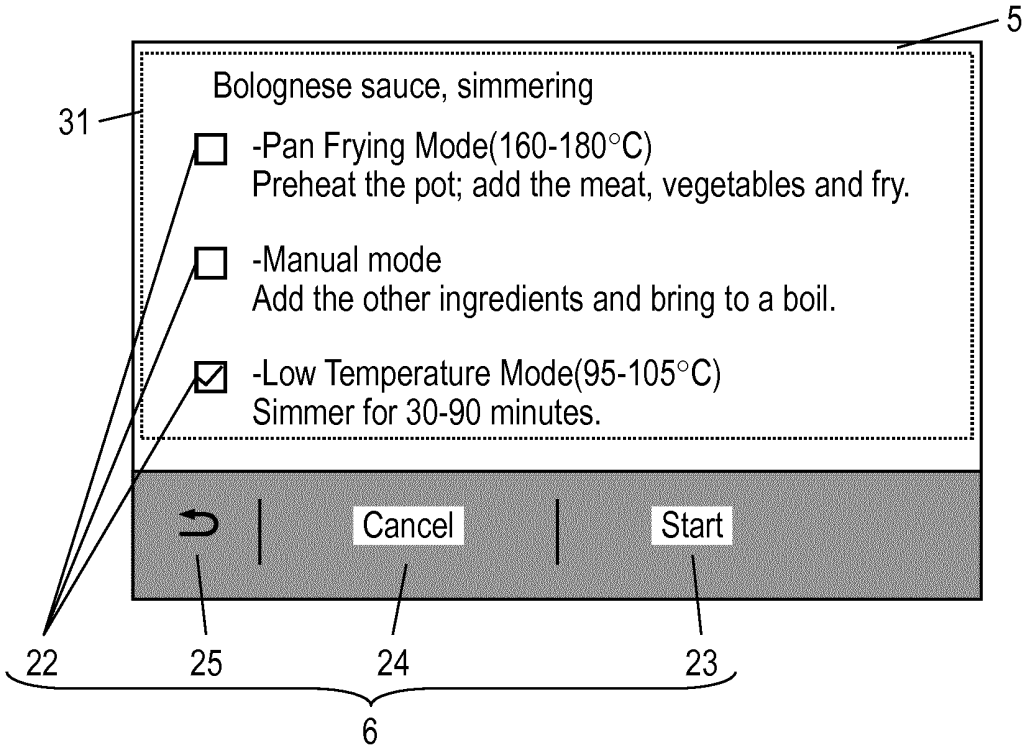

5
Bolognese sauce, simmering
31
-Pan Frying Mode(160-180°C)
Preheat the pot; add the meat, vegetables and fry.
-Manual mode
Add the other ingredients and bring to a boil.
-Low Temperature Mode(95-105°C)
Simmer for 30-90 minutes.
Cancel
Start
22
25
24
23
6

FIG. 11

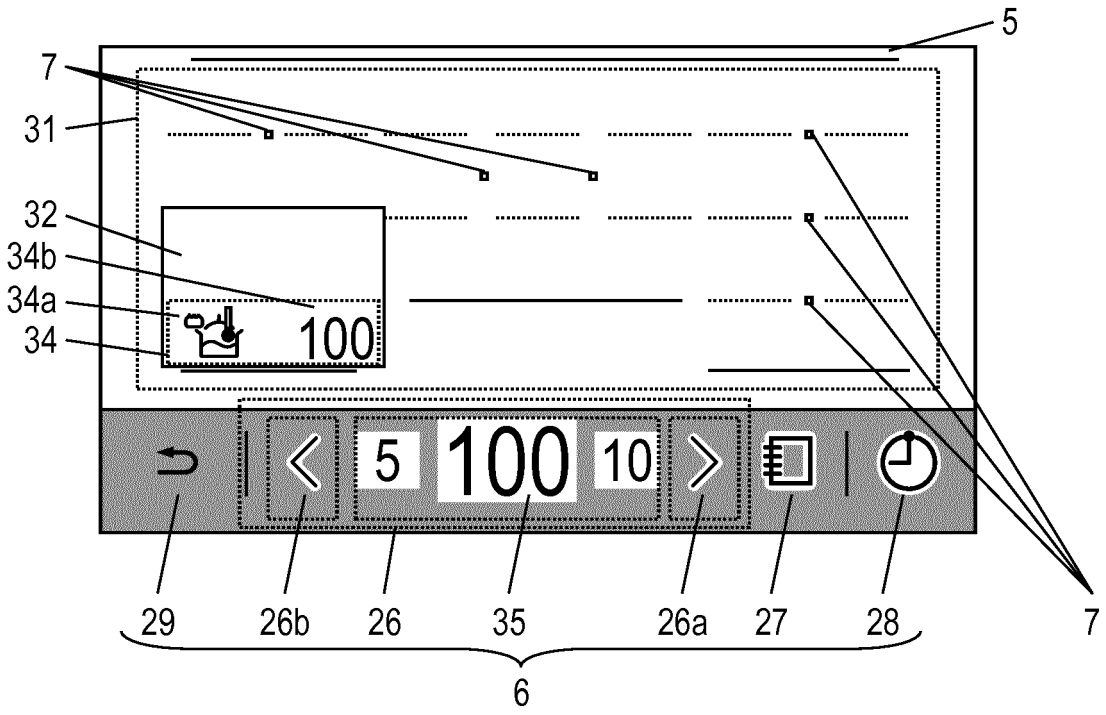
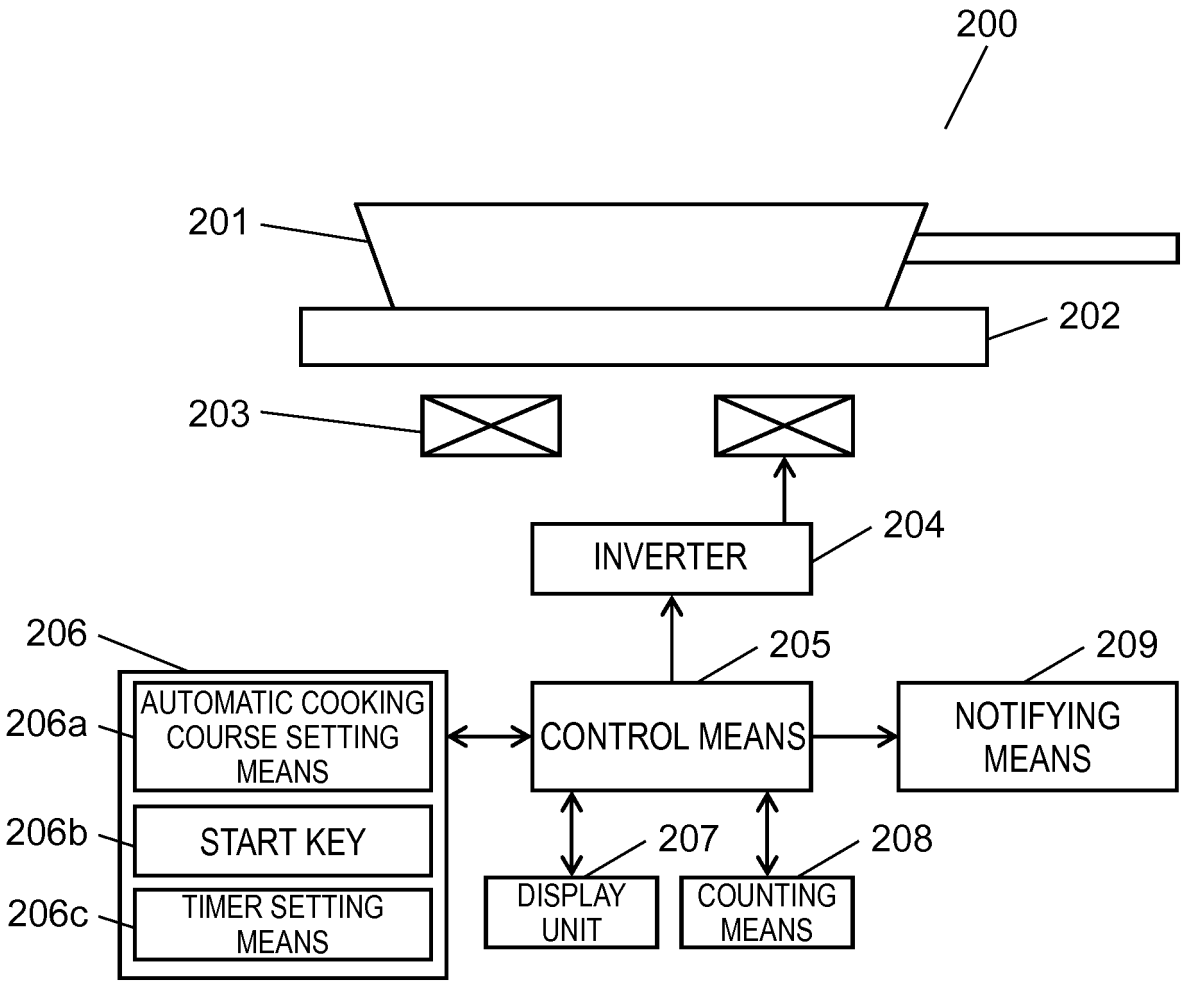


FIG. 12


200
201
202
203
INVERTER
204
206
205
209
AUTOMATIC COOKING COURSE SETTING MEANS
206a
CONTROL MEANS
NOTIFYING MEANS
206b
START KEY
207
208
206c
TIMER SETTING MEANS
DISPLAY UNIT
COUNTING MEANS

INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP2017/032451

A. CLASSIFICATION OF SUBJECT MATTER
Int. Cl. H05B6/12(2006.01)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)
Int. Cl. H05B6/12

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Published examined utility model applications of Japan 1922-1996
Published unexamined utility model applications of Japan 1971-2017
Registered utility model specifications of Japan 1996-2017
Published registered utility model applications of Japan 1994-2017

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y A	JP 2015-219950 A (IRIS OHYAMA INC.) 07 December 2015, paragraphs [0013]-[0042], fig. 1-3, 9 (Family: none)	1 2, 3, 5, 6 4, 7, 8
Y	JP 2007-220388 A (MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.) 30 August 2007, paragraph [0035], fig. 2 (Family: none)	2, 3, 5, 6
Y	JP 2005-122960 A (MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.) 12 May 2005, paragraphs [0017]-[0023], fig. 2 (Family: none)	6

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
05.12.2017	12.12.2017
Name and mailing address of the ISA/ Japan Patent Office 3-4-3, Kasumigaseki, Chiyoda-ku, Tokyo 100-8915, Japan	Authorized officer Telephone No.

Form PCT/ISA/210 (second sheet) (January 2015)

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- JP 2014164837 A **[0006]**