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(54) Abstract Title
A control panel for an oven

(57) A control panel for an electric oven comprises two buttons 4, 6, a single shaft encoder 7 and displays 5 and. The mode of operation of the oven (eg. Grill, Super Grill, etc) is set by pressing button 4 and rotating the shaft encoder to make a selection, the selected mode being displayed in display 5. The suggested temperature for the selected mode is displayed in display 8. To set the operating temperature button 6 is pressed and the desired temperature is set by further rotating the shaft encoder; the set temperature being displayed in display 8. In the embodiment shown an oven with a second muffle is provided. Further buttons 4' and 6' to set the function of mode selection or temperature setting are provided for the second muffle but the same shaft encoder is operable. The mode of operation of the second muffle is displayed in a further display 5' and the temperature can be displayed by the single display 8. Arrows 9 and 9' indicate which muffle is in operation.

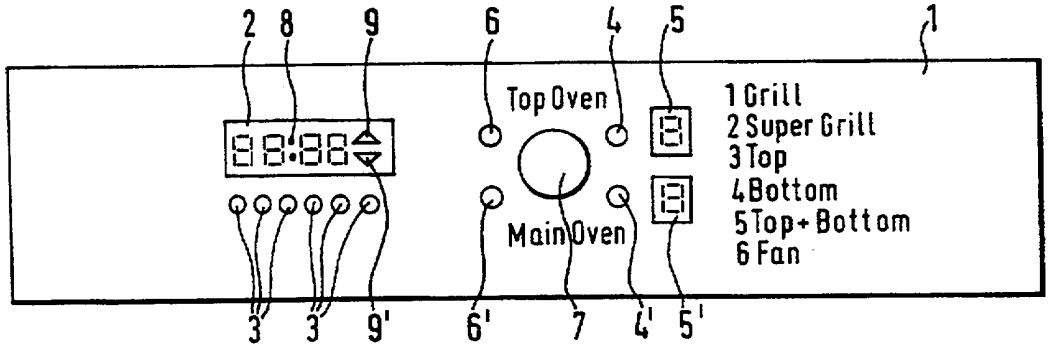

Fig.2

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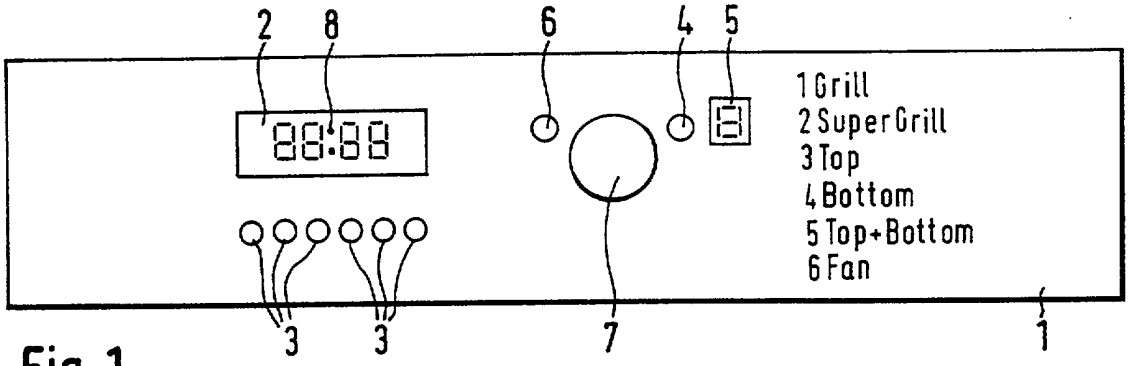
2
8
6
4
5
88:88
1 Grill
2 Super Grill
3 Top
4 Bottom
5 Top+Bottom
6 Fan
3
3
7
1

Fig.1

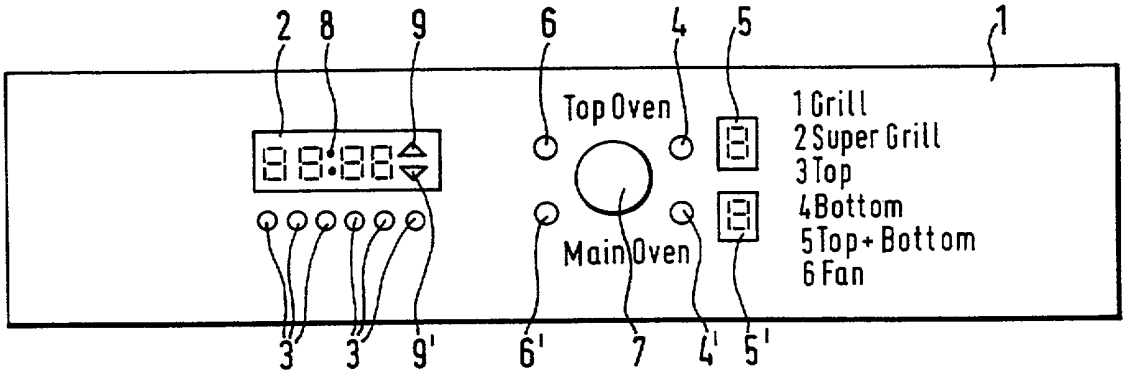
2
8
9
6
4
5
1
Top Oven
88:88
1 Grill
2 Super Grill
3 Top
4 Bottom
5 Top+Bottom
6 Fan
Main Oven
3
3
9'
6'
7
4'
5'

Fig.2

CONTROL PANEL FOR AN ELECTRIC OVEN

This invention relates to a control panel for an electric oven.

According to the prior art, electric ovens are operated by means of turnable knobs, one turnable knobbeing provided for setting the mode of operation of the oven and a second turnable knob being provided for setting the temperature. The selected mode of operation or temperature is displayed by means of printed markings on the relevant knob or by means of printed graduated disks, which present their displayed value in segments through a window opening. Therefore, with ovens, which – as is usual locally – have two oven muffles, a total of four turnable knobs is necessary for their operation, which calls for a high expenditure as regards mounting and wiring the individual control components.

The present state of the art with electric ovens is that for their operation a push-button as well as a cooking-stage display is used for each hotplate, but only a single shaft encoder is used for the whole cooker, in which case by pressing a push-button the respective hotplate is activated and its cooking stage is altered by turning the shaft encoder.

Taking this state of the art as a starting point, the present invention is based on the objective of producing a control panel for an electric oven, in which the expenditure in respect of control components is minimised and yet a simple and reliable operation is ensured.

This objective is achieved by providing a control panel for an electric oven, which has a first and a second push-button, a shaft encoder and a first and a second display, in which the mode of operation of the oven can be set by pressing the first push-button and subsequently turning the shaft encoder, the mode of operation thus selected being indicated by the first display; the temperature of the oven can be set by pressing the second push-button and subsequently turning the same shaft encoder, the selected temperature being

indicated by the second display; and on setting of the mode of operation a suggested temperature is indicated by the second display.

A seven-segment display is preferably used as the first display and the display of a digital oven timer is used as the second display.

As a development of the invention, it is proposed that for controlling a double oven (an oven having two muffles) two first push-buttons, two second push-buttons and two first displays are provided, wherein one of the two first push-buttons can be pressed for selecting the mode of operation of one or other of the two oven muffles, the selected mode of operation being indicated on one or other of the two first displays, and one of the two second push-buttons can be pressed so as to set the temperature of one or the other of the two oven muffles, the temperature being indicated on the single second display with an indication of the oven muffle concerned.

The advantage of the invention lies in the fact that – even if several oven muffles are designed to be controlled by means of one oven control mechanism – only one shaft encoder and one second display (for displaying the selected temperature) are needed and yet a reliable and simple operation of the oven is ensured.

A preferred embodiment of the invention will now be described in greater detail, by way of example, with reference to the accompanying drawings, in which:-

FIGURE 1 shows a control panel of a single oven, and

FIGURE 2 shows a control panel of a double oven.

Referring to FIGURES 1 and 2 of the drawings a control panel 1 for an oven having one oven muffle has a display 2 and push-buttons 3, for controlling a digital oven timer, as well as a first push-button 4, a seven-segment display 5, a second push-button 6 and a shaft encoder 7.

When the first push-button 4 is pressed, then the mode of operation of the oven can be set by means of the shaft encoder 7. The selected mode of operation is then indicated by the seven-segment display 5 by a number, the possible values and specific meanings of the displayed numbers being printed alongside the seven-segment display 5 on the control panel by way of explanation of the displayed number (1 Grill, 2 Super Grill, 3 Top Heat, 4 Bottom Heat, 5 Top and Bottom Heat, 6 Circulating Air).

When a mode of operation is selected, a suggested temperature for the mode of operation just selected is indicated on the display 2. If the second push-button 6 is now pressed, the temperature for the oven can be set by means of the shaft encoder 7, by altering the displayed suggested temperature. Whilst a temperature is being displayed, the colon 8 in the display 2 goes out and the first or last position in the display shows a "C", thus it is clear that it is a temperature which is being displayed. If one of the push-buttons 3 of the timer is pressed, then the time or another reading based on the timer is indicated in the display 2, in which case the colon 8 reappears.

For switching off the oven, it can be arranged that a mode of operation "O" is selected, that the temperature is adjusted to 0 or that the first push-button 4, the second push-button 6 or even the shaft encoder 7 is held down for a certain length of time.

In addition to the elements already described, according to FIGURE 2 a control panel for a double oven has an additional first push-button 4', an additional seven-segment display 5', an additional second push-button 6' and two arrow symbols 9 and 9' in the display 2 of the timer. In this case the additional first push-button 4', the additional seven-segment display 5' and the additional second push-button 6' together with the shaft encoder 7 serve for setting the mode of operation and the temperature as well as for displaying the mode of operation for a second oven muffle ("Main Oven") in the same way as

the first push-button 4, the seven-segment display 5 and the second push-button 6 together with the shaft encoder 7 serve to do this in respect of a first oven muffle ("Top Oven") according to the principle described above. In the display 2, the temperature is displayed for that oven muffle which has just been selected by the push-buttons 4,6,4',6', the arrow symbol 9 in the display 2 lighting up in the case of selection of the top oven muffle and the arrow symbol 9' lighting up when the bottom oven muffle is selected. On activation of the timer by pressing one of the push-buttons 3, the time or another time detail controlled by the timer is again indicated on the display 2, the arrow symbols 9 and 9' going out and the colon 8, which – as described above – goes out when a temperature is displayed, lighting up again.

Instead of printing on the panel the meanings of the numbers for the modes of operation of the oven, it is also possible to provide these explanatory legends in such a way that they are backlit so that the selected mode of operation of the oven is directly indicated by a backlit legend (in the case of a double oven, having a symbol or an indication as to which oven muffle this display relates to). In this case, a seven-segment display 5,5' is no longer necessary.

Furthermore it is possible, instead of the seven-segment displays 5,5', to use other displays (such as for example LCD displays), by which the selected mode of operation is indicated by means of easily understood symbols, so that an explanation of the selected modes of operation in the form of printed markings on the control panel is no longer necessary.

CLAIMS

1. A control panel for an electric oven, which has a first and a second push-button, a shaft encoder and a first and a second display, in which the mode of operation of the oven can be set by pressing the first push-button and subsequently turning the shaft encoder, the mode of operation thus selected being indicated by the first display; the temperature of the oven can be set by pressing the second push-button and subsequently turning the same shaft encoder, the selected temperature being indicated by the second display; and on setting of the mode of operation a suggested temperature is indicated by the second display.

2. A control panel according to Claim 2, in which for operating an oven having two oven muffles two first push-buttons, two second push-buttons and two first displays are provided, wherein one of the two first push-buttons can be pressed for selecting the mode of operation of one or the other of the two oven muffles and one of the two second push-buttons can be pressed for setting the temperature of one or the other of the two oven muffles; after pressing of the first or second push-buttons, in each case the same shaft encoder is always operable; the mode of operation can be displayed by the respective first displays for the two oven muffles and the temperature can be displayed by the single second display with an indication of the oven muffle concerned.

3. A control panel according to Claim 1 or 2, in which the or each first display is a seven-segment display and the second display is the display of a digital oven timer.

4. A control panel for an electric oven, substantially as herein described with reference to FIGURE 1 or FIGURE 2 of the accompanying drawings.

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Claims searched: 1-4
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Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

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F2Y: YPD, YTA, YTB

Int Cl (Ed.7): F24C: 3/12, 7/08, 15/06
H05B: 6/68

Other: Online: JAPIO, EPODOC, WPI

Documents considered to be relevant:

Category	Identity of document and relevant passage		Relevant to claims
A	GB 2,216,700 A	(Diehl GmbH) See whole document)	3
A	DE 3,642,807	(Bosch Siemens Hausgeraete) See EPODOC and WPI abstracts	-

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.