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(54) **Control panel of a cooking appliance**

(57) The cooking appliance control panel (A) according to the present invention, comprises at least one rotary control knob (3) provided at the front thereof; and one adjustment bar (4) for each knob (3), provided at the rear section (2) thereof, each of said bars (4) coupled to an individual knob (3) to adjust the operation of the respective heaters of the appliance. The panel (A) further comprises a carrier member (5), fitted to the adjustment bar

(4) and provided with a magnetic element (6); and an electrical unit (7), provided with at least one magnetic sensor (8) and illuminating element (9). The light emitted from the illuminating element (9) is passed through the interior of the knob (3). When a magnetic element (6) faces, or comes in front of, the sensor (8) with rotating the knob (3), the sensor (8) interrupts the electricity supply to the illuminating element (9).

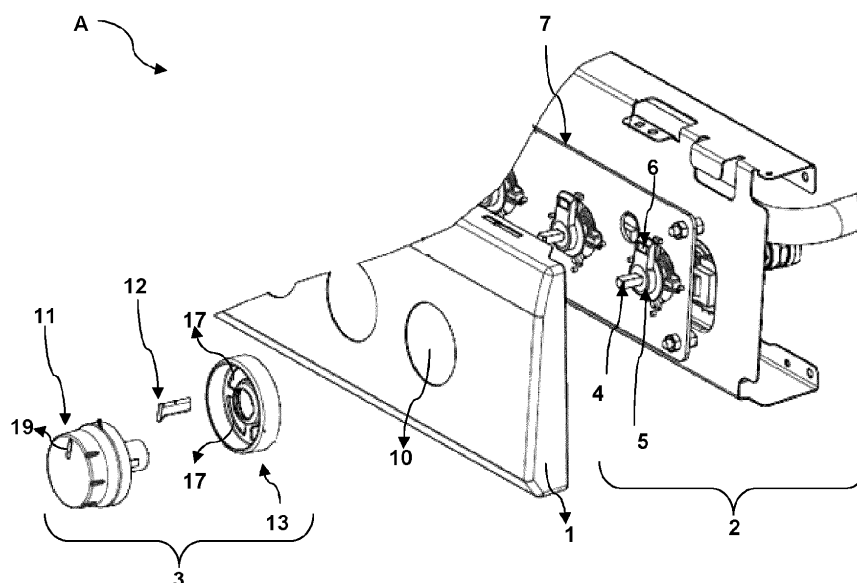


Figure – 1

Description

Technical Field

[0001] This invention relates to control panels, used in cooking appliances and comprising knobs to adjust the operation of heaters provided in said appliances.

Prior Art

[0002] As is known, typically gas or electrical heaters are used in cooking appliances, cooker burners, or in the internal chamber of ovens. In order to regulate the operation of heaters, in turn, the use of rotary knobs is preferred. The position or state of the rotary control knob is also used as an indicator for indicating the open/close state of a heater and the extent to which it is opened (normal or low, etc.). Illuminated control knobs are preferable for the circumstances where the ambient light is low or where the respective user is somewhat far from the respective appliance. In this context, the published patent application US6733146 according to the prior art discloses a rotary control knob, wherein a light on the knob and a battery supplying energy to this light and the knob, together with its surrounding, are illuminated. In the system according to that application, the necessity to replace the battery in time constitutes a drawback in terms of the users (in replacing the battery, the control units of electrical and gas heaters are also exposed to a pull-force).

Brief Description of Invention.

[0003] The cooking appliance control panel according to the present invention, in turn, comprises at least one rotary control knob provided at the front thereof; and one adjustment bar for each knob, provided at the rear thereof, each of said bars coupled to an individual knob to adjust the operation of the respective heaters of the appliance. The panel further comprises a carrier member, fitted to the adjustment bar and provided with a magnetic element; and an electrical unit, provided with at least one magnetic sensor and illuminating element. The light emitted from this illuminating element is passed through the interior of the knob. When a magnetic element comes in front of the sensor with rotating the knob; the sensor interrupts the electricity supply to the illuminating element.

Object of Invention

[0004] The object of this invention is to provide a control panel, comprising rotary control knobs having also an illumination feature for cooking appliances.

[0005] Another object of this invention is to provide an easily-producible and inexpensive, reliable machine, having the aforesaid features.

Description of Figures

[0006] A part of an illustrative embodiment of the cooking appliance according to the present invention is illustrated in annexed figures briefly described hereunder.

Figure 1 is a perspective schematic view of a control panel of the cooking appliance prior to assembly.

Figure 2 is a front schematic view of an electrical unit used in said panel.

Figure 3 is a perspective schematic view of a magnetic element and its carrier member prior to assembly.

Figure 4 is a cross-sectional illustration of a rotary control knob in an assembled form.

[0007] The parts in said figures are individually numbered as following.

- control panel (A)
- front plate (1)
- rear section (2)
- rotary control knob (3)
- adjustment bar (4)
- carrier member (5)
- magnetic element (6)
- electrical unit (7)
- magnetic sensor (8)
- illuminating element (9)
- hole (10)
- knob body (11)
- transparent part (12)
- knob socket (13)
- bar socket (14)
- magnetic element socket (15)
- hole (16)
- opening (17)
- inner section (18)
- body opening (19)

Description of Invention

[0008] Figure 1 gives a perspective schematic view of a control panel (A) provided in a cooking appliance (not illustrated in figures) according to the present invention, which is presented in an assembled form. The cooking appliance control panel (A) here comprises at least one rotary control knob (3) and a front plate (1) just behind the knobs (3); and an equipment at the rear section (2), said equipment remaining behind the plate (1) and ensuring the adjustment of the functions of the cooking appliance. Between this equipment are provided components (not illustrated in figures), e.g. valves for gas cookers, potentiometers for electrical cookers, etc. and an electrical unit (7) with the following details.

[0009] Said electrical unit (7) is illustrated in figures 1 and 2, and is preferably made in the form of a printed circuit board, in terms of production and assembly easi-

ness. In the electrical unit (7) are provided at least one magnetic sensor (8) and illuminating element (9) (e.g. LED or bulb). This sensor (8) determines if light is to be emitted from the illuminating element (9). When a magnetic element (6) (see figures 1 and 3) comes in front of the sensor (8), the sensor (8) interrupts the electricity supply to the illuminating element (9). And when the magnetic element (6) is moved away from the sensor (8) (i.e. when the knob (3) is rotated), the electricity supply to the illuminating element (9) is opened so that the elements (9) start emitting light. (An adjustment bar (4) mentioned below is passed through a hole (16) shown on the electrical unit (7). The periphery of the hole (16) is likewise provided with a sensor (8) and illuminating elements (9).)

[0010] Figure 3 is a perspective schematic view of the magnetic element (6) and carrier member (5) prior to assembly. The carrier member (5) is designed to place the magnetic element (6) thereon. For this purpose, the magnetic element (6) is placed into a socket (15) provided on the member (5), wherein this magnetic element (6) changes its position according to the movement of the carrier member (5). On the carrier member (5) is provided also a separate socket (14) for fitting the member (5) to the adjustment bar (4) (see Figure 1) (the adjustment bar (4) is introduced into this socket (14)).

[0011] The adjustment bar (4) illustrated in Figure 1, in turn, is used to adjust the parts (i.e. gas or electrical heaters) such as a gas valve or a potentiometer of an electrical heater (not illustrated in figures). The rotary control knob (3) is fitted onto the adjustment bar (4), such that when the knob (3) is rotated, the adjustment bar (4) is rotated as well. Thus, the magnetic element (6) on the carrier member (5) fitted to the adjustment bar (4) also changes its position when the bar (4) is rotated.

[0012] When the adjustment bar (4) is brought to a certain angular position, the magnetic member (6) comes against the magnetic sensor (8) and in this position (this position is the null or closed position of the knob (3)) the sensor (8) interrupts the electricity supply to the illuminating element (9), as mentioned above. With rotating the adjustment bar (4), the magnetic member (6) is brought far from the sensor (8) and in this case electricity is supplied to said elements (9).

[0013] The illumination of the illuminating elements (9) is an indication that the gas cookers or electric heaters are in an operative state. It is ensured with this invention to deliver the light emitted from the illuminating elements (9) to a user via the rotary control knob (3), and to indicate that the respective functions are conducted in relation to that knob (3). The knob (3) structure illustrated in figures 1 and 4 are developed for this purpose. The rotary control knob (3) here is fitted to the adjustment bar (4) passed through the interior of the hole (10) on the front plate (1). The knob (3) comprises an opaque knob body (11) and a knob socket (13), as well as at least one transparent member (12), provided in an inner section (18) remaining therebetween (11, 13). At least one opening (17) is provided on the knob socket (13), these openings (17) facing

the illuminating elements (9) when the knob (3) is in a form mounted to the panel (A). The light emitted from the illuminating elements (9) is passed through these openings (17) and illuminates the inner section (18) of the opaque knob body (11). As for the transparent member (12) provided in the inner section (18), it gives the light out through at least one body opening (19) provided on the knob body (11).

Claims

1. A cooking appliance control panel (A), comprising at least one rotary control knob (3) provided at the front thereof; and one adjustment bar (4) for each knob, provided at the rear section (2) thereof, each of said bars coupled to an individual knob (3) to adjust the operation of the respective heaters of the appliance, **characterized by** further comprising a carrier member (5) fitted to the adjustment bar (4) and provided with a magnetic element (6); and an electrical unit (7) provided with at least one magnetic sensor (8) and illuminating element (9); wherein the light emitted from the illuminating element (9) is passed through the interior of the knob (3) and when a magnetic element (6) faces, or comes in front of, the sensor (8) with rotating the knob (3), the sensor (8) interrupts the electricity supply to the illuminating element (9).
2. The cooking appliance control panel (A) according to Claim 1, **characterized in that** said knob (3) comprises an opaque knob body (11) and a knob socket (13), as well as at least one transparent member (12), provided in an inner section (18) remaining therebetween (11, 13).
3. The cooking appliance control panel (A) according to Claim 2, **characterized by** comprising at least one opening (17) on the knob socket (13) in a manner facing said illuminating element (9), the light emitted from the illuminating element (9) being passed through this opening to reach the inner section (18).
4. The cooking appliance control panel (A) according to Claim 2, **characterized by** comprising at least one body opening (19) on the knob body (11), through which the light passing through the transparent member (12) at the inner section (18) is given out.
5. The cooking appliance control panel (A) according to Claim 1, **characterized in that** a hole (16) is provided in the electrical unit (7), the periphery of said hole (16) being provided with a magnetic sensor (8) and illuminating element (9), and the adjustment bar (4) being passed through this hole (16).

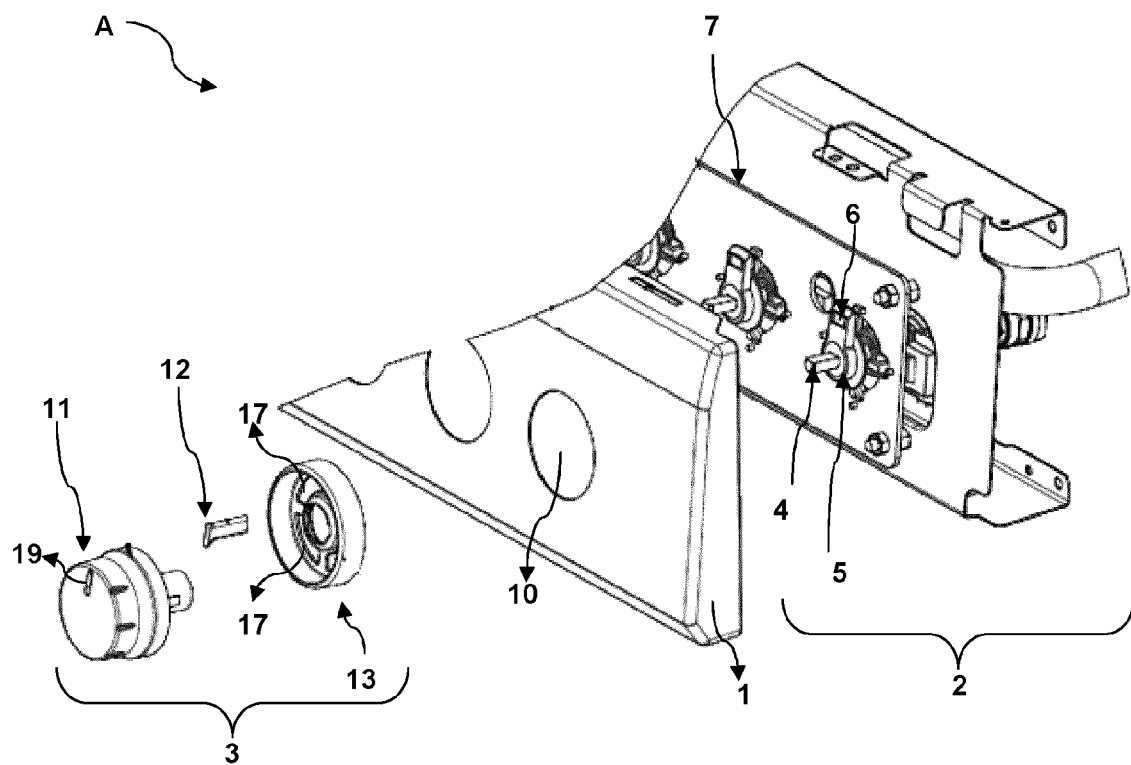


Figure – 1

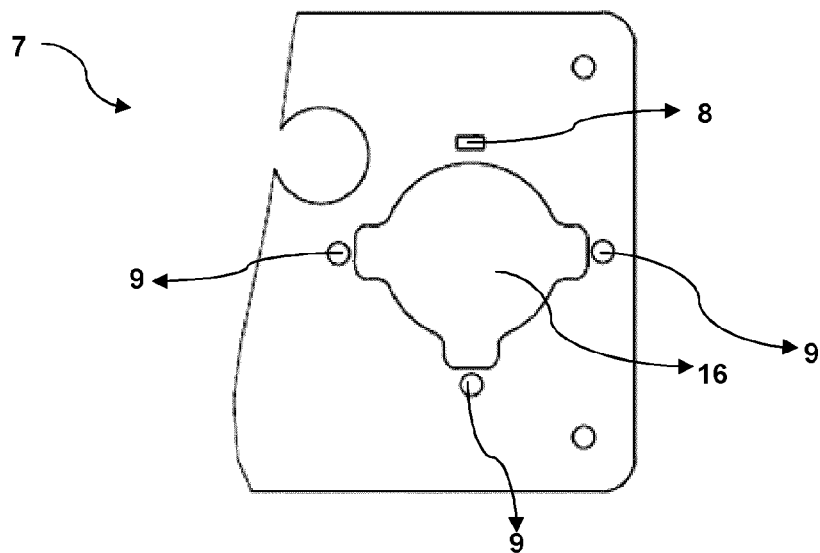


Figure – 2

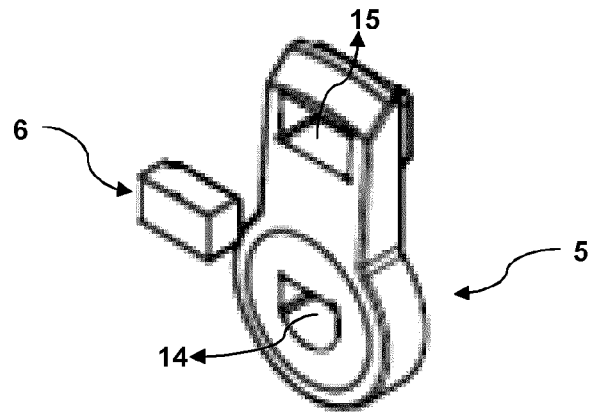


Figure – 3

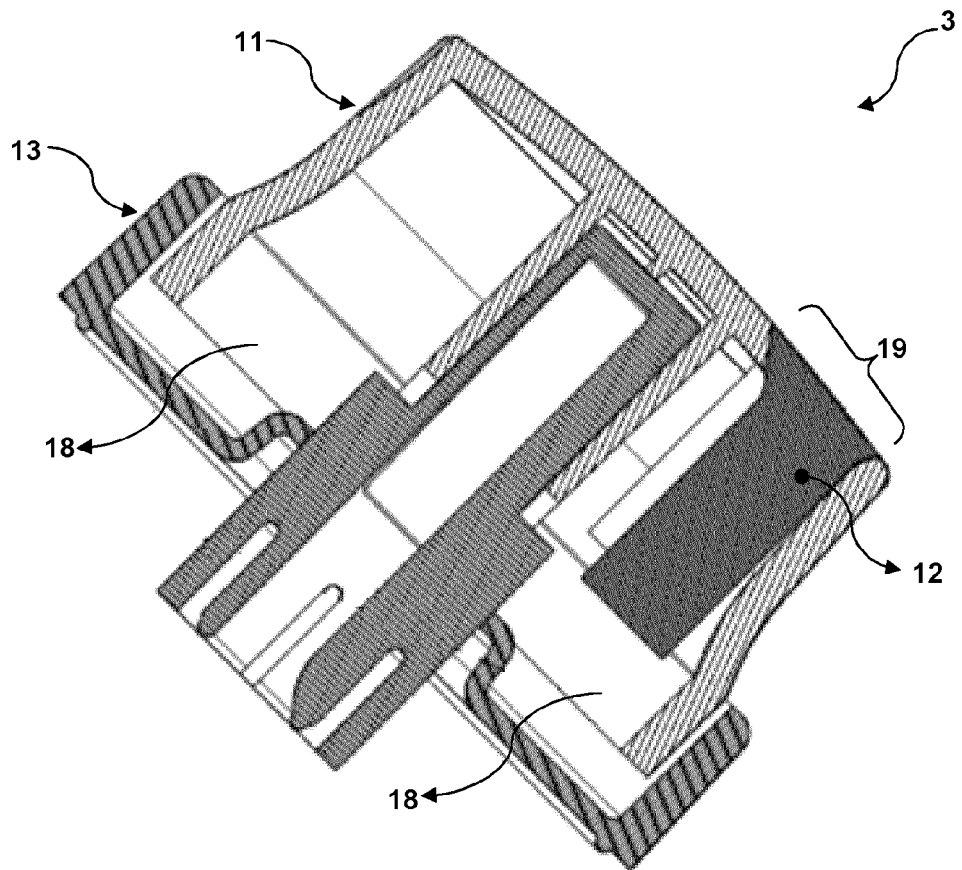


Figure – 4



EUROPEAN SEARCH REPORT

Application Number
EP 11 19 0818

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	DE 101 34 395 A1 (GRUNDIG AG [DE] GRUNDIG MULTIMEDIA BV [NL]) 30 January 2003 (2003-01-30) * paragraph [0011] - paragraph [0025]; figures 1-5 *	1-5	INV. F24C7/08 G05G1/08 G05G1/10 G05G1/12 H01H36/00
A	EP 0 600 780 A1 (SCHOLTES SOC [FR] MERLONI ELECTROMENAGER [FR]) 8 June 1994 (1994-06-08) * column 4, line 32 - column 9, line 48; figures 1-4 *	1-5	
A	US 4 446 455 A (NASHAWATY RALPH G [US]) 1 May 1984 (1984-05-01) * column 3, line 53 - column 4, line 49; figures 1-4 *	1-5	
			TECHNICAL FIELDS SEARCHED (IPC)
			F24C G05G H01H G02B H05B
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 14 March 2012	Examiner Kamara, Amadou
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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EPO FORM 1503 03/02 (P04C01)

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

EP 11 19 0818

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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14-03-2012

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REFERENCES CITED IN THE DESCRIPTION

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