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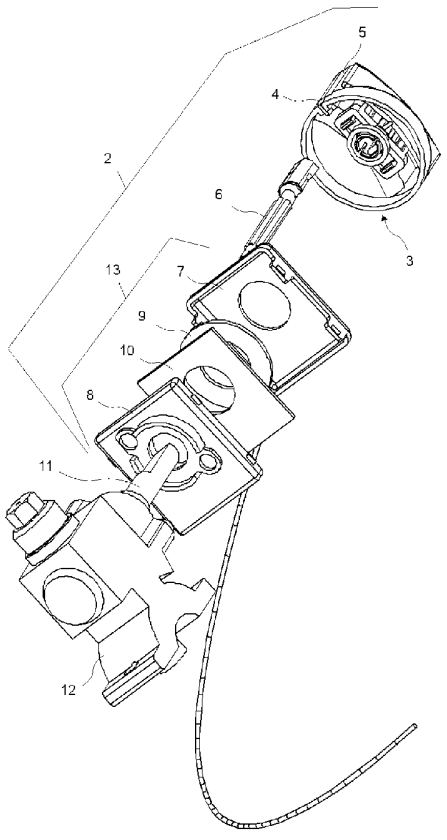
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(54) **Title:** A HOUSEHOLD APPLIANCE



(57) **Abstract:** A household appliance (1) comprising one or more first and second implementers (12, 22) providing the implementation of selected functions; and characterized by a knob (2) allowing the user to choose between more than one function and to specify the instructions; having a handle (3) by which the user can command the first implementer (12) by holding, a selector (5) situated on the handle (3) , activated by the static electricity conducted with the user's touch when contacted, providing the selection of an additional function other than the function instructed to the first implementer (12) and a sensor unit (13) sensing whether the selector (5) has been touched or not via the static electricity conducted by the user and when touched excites the second implementer (22) .

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Description

A HOUSEHOLD APPLIANCE

[001] The present invention relates to a household appliance comprising a knob which allows the user to choose between more than one function.

[002] In the current state-of-the-art, in household appliances, knobs are used for choosing between functions. The knobs can provide the selection of only one function, but can also be utilized in a multifunctional manner with for example additional parts. In these embodiments there may be hardships in the utilization of the knob.

[003] In the prior art, in household appliances, for example in cooking devices, a knob is used to control the flow-rate of the gas flowing from the gas tap for utilizing the burner-heads on the cook-top as a source of heat in cooking and for heating items. There are integrated implementers, such as lighters and micro-switches, on the cooking device for igniting the gas, the flow of which is controlled by a knob. The user turns the knob controlling the gas tap of the burner which she wants to light, up to a point matching the desired flame amount and ignites the out flowing gas by a micro-switch. When the burner head is desired to be turned off, the knob is moved aligning to the closing position and the flames are turned off by turning off the gas flow.

[004] The users prefer utilizing micro-switches integrated to the cooking device or the cooktop for ease of use, but integrated microswitches can go out of order after some amount of use due to conditions and medium in which they are utilized. Therefore the microswitches should be positioned or activated so as not to be affected by the cooking conditions and the cooking medium.

[005] The object of the present invention is to design a household appliance which comprises a multifunctional knob that has a long lasting service life.

[006] The household appliance designed to fulfill the objective of the present invention is shown in the attached figures, where:

[007] Figure 1 – is the perspective view of a household appliance.

[008] Figure 2 – is the perspective view of a knob and a first implementer activated by the knob.

[009] Figure 3 – is the exploded view of a knob and a first implementer activated by the knob.

[010] Figure 4 – is the side view of a knob and a first implementer activated by the knob.

[011] Figure 5 – is the CC sectional view of a knob and a first implementer activated by the knob.

[012] Elements shown in the figures are numbered as follows:

1. Household appliance
2. Knob

3. Handle
4. Indicator
5. Selector
6. Transmitter
7. Top lid
8. Bottom lid
9. Ring
10. Circuit card
11. Shaft
12. , 22. Implementer
13. Sensor unit

[013] The household appliance (1), preferably the cooking device, comprises a knob (2) allowing the user to choose between functions and to specify the instructions, and one or more first and second implementers (12, 22) for implementing the selected functions.

[014] In the preferred embodiment of the present invention, the household appliance (1) comprises a shaft (11) for transmitting the functions selected by the user to the first implementer (12).

[015] The knob (2) comprises a handle (3) by which the user can command the first implementer (12) by activating the shaft (11) for making selections, one or more indicators (4) situated on the handle (3) for displaying the selected function to the user, a selector (5) situated on the handle (3), activated by the static electricity conducted with the user's touch, providing the selection of an additional function other than the function controlled by the shaft (11), a transmitter (6) connected to the selector (5), moving conjointly with the handle (3) made of a conductive material, such as plastic, metal or carbon impregnated silicon and a sensor unit (13) sensing whether the selector (5) has been touched or not via the static electricity conducted by the user and when touched excites the second implementer (13).

[016] The sensor unit (13) comprises a top lid (7) upon which the transmitter (6) moves together with the handle (3), a bottom lid (8) on which the top lid (7) closes, a ring (9) between the bottom lid (8) and the top lid (7), made of a conductive material, such as carbon impregnated silicon, providing the transmitter (6) to sense the static electricity conducted by the user via the selector (5) at every position, and a circuit board (10) made of electronic parts which transmits the sensed static electricity to the second implementer (22) by contacting the ring (9).

[017] The household appliance (1) comprises one or more connectors, like cables for example, that connect the circuit board (10) to the second implementer (22).

[018] The circuit board (10) comprises a pressing surface in continuous contact with the

ring (9) and one or more sensors which monitor the position of the ring (9) by way of the pressing surface, sensing the static electricity conducted on the ring (9) by the help of the transmitter (6) when the user touches the selector (5) and triggers the second implementer (22) to which it is connected with the help of the connector.

[019] During the assembly of the embodiment of the present invention, after the first implementer (12) is fixed to its position, the sensor unit (13) composed of the top lid (7) and the bottom lid (6) with the circuit board (10) and the ring (9) in between, is mounted on the shaft (11) situated on the first implementer (12), and the handle (3) with the transmitter (6) positioned inside is fitted on the shaft (11) so that the transmitter (6) is kept in contact with the top lid (7) and the sensor unit (13) is fixed on the first implementer (12). The cable, fixed to the circuit board (10) between the top lid (7) and the bottom lid (8) is connected to the second implementer (22).

[020] While the knob (2) of the present invention is being used, the user moves the handle (3) about the shaft (11) according to the symbols on the knob (3) or on the household appliance (1) panel to which the knob (2) is attached, in order to activate the first implementer (12) as desired. The handle (3) moves the shaft (11) simultaneously as it moves, and the shaft (11) opens the first implementer (12). The user has to touch the selector (5) on the handle (3) in order to carry out another function. When the user touches on the selector (5), the static electricity on the user flows to the transmitter (6) and the ring (9) respectively and the excited sensor commands the second implementer (22). When the second implementer (22) is active, the first function carried on by the first implementer (12) can be simultaneously utilized with a second function provided by the second implementer (22). The selected function implementations come to an end when the user turns the handle (3) to the closed position or when the contact with the selector (5) is ended.

[021]

[022] In one embodiment of the present invention, the knob (2) is used together with the gas tap controlling the flow of gas and serving as the first implementer (12) and a microswitch serving as the second implementer (22). In this embodiment, the gas flowing into the medium via the first implementer (12) is ignited by the sparks created by the second implementer (22). Thus, the user controls the gas flow by just turning a knob (2), opening the first implementer (12) controlling the gas flow and ignites the outflowing gas by only touching the selector (5) without using any internal or external lighters, ignition switches etc. . When the flame is desired to be put off, the gas flow is cut by the first implementer (12) when the knob (2) is turned to the closed position, putting off the flame.

[023] In the embodiment of the present invention, the selection of two different functions and the simultaneous implementation of the selected functions is achieved, one by the

mechanical components and the other by the electronic components triggered via the static electricity conducted by the user.

[024] In another embodiment of the present invention, the selection of more than one, same and/or different functions and the simultaneous implementation of all the selected functions is accomplished with the help of the electronic parts triggered by the static electricity conducted by the user.

[025] With the knob (2) of the present invention, the production defects that may arise in positioning the first and second implementers (12, 22) during manufacturing are avoided, providing advantages in inventory costs and time. Furthermore the user can easily perform more than one function by only one knob (2) during utilization. Since the knob (2) functions by the help of electronic components, the life expectancy of the knob (2) is very long and unproblematic.

Claims

[001] A household appliance (1) comprising one or more first and second implementers (12, 22) providing the implementation of selected functions ; and characterized by a knob (2) allowing the user to choose between more than one function and to specify the instructions ; having a handle (3) by which the user can command the first implementer (12) by holding, a selector (5) situated on the handle (3), activated by the static electricity conducted with the user's touch when contacted, providing the selection of an additional function other than the function instructed to the first implementer (12) and a sensor unit (13) sensing whether the selector (5) has been touched or not via the static electricity conducted by the user and when touched excites the second implementer (22).

[002] A household appliance (1) as in Claim 1, characterized by a knob (2), comprising a transmitter (6) made of a conductive material, connected to the selector (5) and moving together with the handle (2).

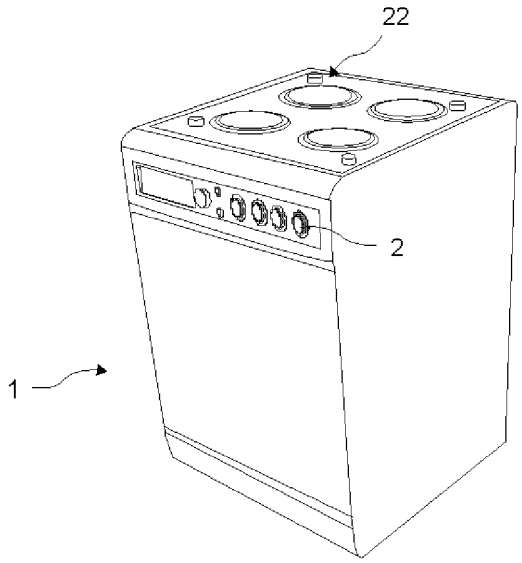
[003] A household appliance (1) as in Claim 1 and 2, characterized by a shaft (11) allowing the user to convey the functions to the first implementer (12) which is activated via the handle (3).

[004] A household appliance (1) as in Claim 2, characterized by a knob (2) comprising a transmitter (6) made of a carbon impregnated silicon material.

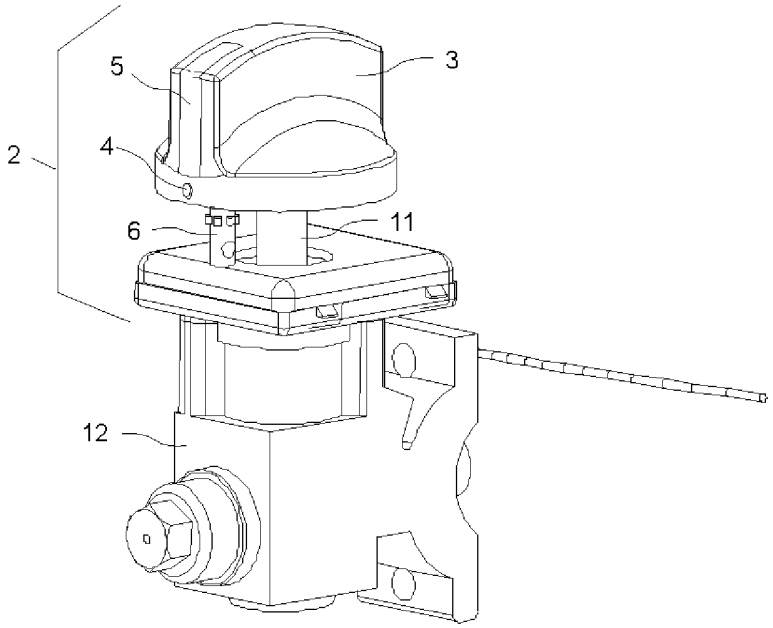
[005] A household appliance (1) as in Claim 4, characterized by a sensor unit (13) comprising a top lid (7) upon which the transmitter (6) moves conjointly with the handle (3), a bottom lid (8) on which the top lid (7) closes, a ring (9) between the bottom lid (8) and the top lid (7), made of a conductive material, providing the transmitter (6) to sense the static electricity conducted by the user via the selector (5) at every position, and a circuit board (10) made of electronic parts which transmit the sensed static electricity to the second implementer (22) to which it is connected , by contacting the ring (9).

[006] A household appliance (1) as in Claim 1 to 5, characterized by one or more indicators (4) on the handle (3), which display the selected function to the user.

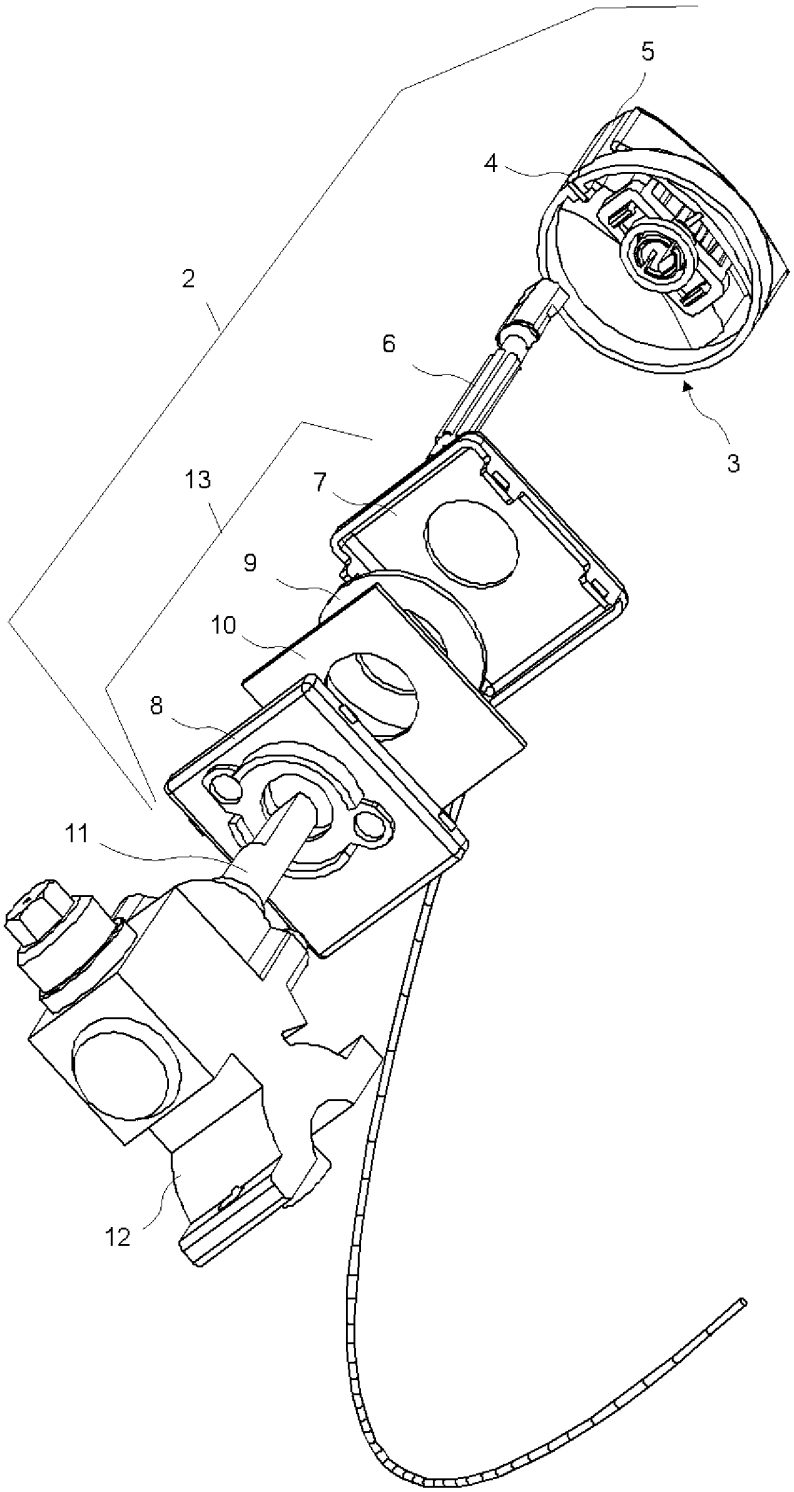
[Fig. 001]



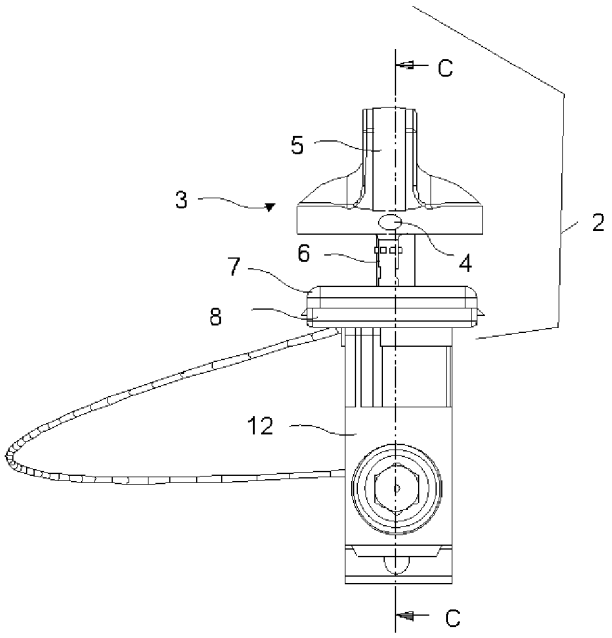
[Fig. 002]



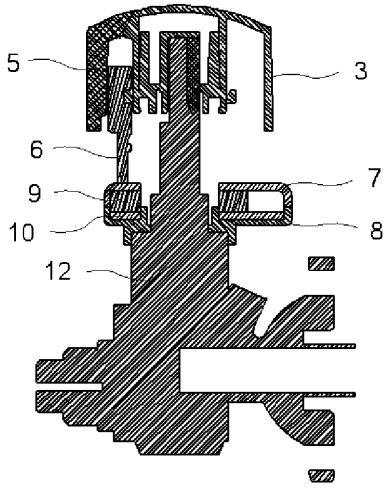
[Fig. 003]



[Fig. 004]



[Fig. 005]



INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2005/054408

A. CLASSIFICATION OF SUBJECT MATTER
INV. G05G1/10 F24C3/10

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)
G05G F24C

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

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 2 361 292 A (* FLUX RESEARCH PTY LTD) 17 October 2001 (2001-10-17)	1-3,6
A	page 4 - page 10; claims 1-8; figures 1-11	4,5
A	GB 2 368 112 A (* GRAND HALL ENTERPRISE CO. LTD) 24 April 2002 (2002-04-24) abstract; figure 5	1
A	GB 1 238 949 A (CHARLES DAVID BRANSON) 14 July 1971 (1971-07-14) page 4, line 86 - line 127; figure 7	1
A	WO 03/063550 A (BSH BOSCH UND SIEMENS HAUSGERAETE GMBH; ERDMANN, KLAUS) 31 July 2003 (2003-07-31) abstract; figures 1,2	1

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[X] Further documents are listed in the continuation of Box C.

[X] See patent family annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
4 May 2006	15/05/2006

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INTERNATIONAL SEARCH REPORT

International application No
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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DE 103 04 720 A1 (BAYERISCHE MOTOREN WERKE AG) 19 August 2004 (2004-08-19) abstract; figure 1	1

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/IB2005/054408

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