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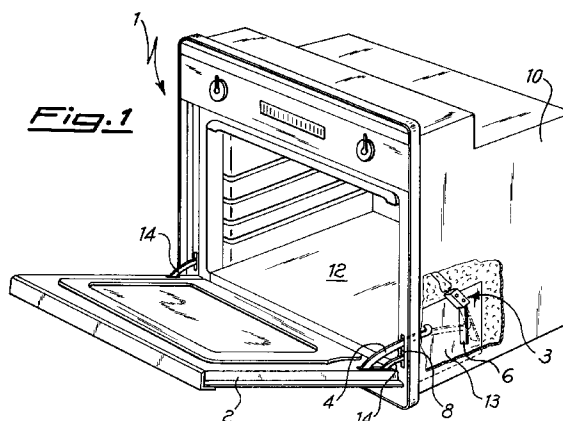
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(54) **Device driven by the opening of a domestic gas-oven to light interior thereof and for the contemporaneous safety of the electronic ignition.**

(57) A device is described which, applied to a domestic gas-oven and driven by the door thereof, at the opening of the door itself causes the lamp inside the oven to automatically switch on and enables at the same time the electronic igniter of the burner to work. This is obtained by a microswitch whose contacts, which are normally closed in the open position of the door, thus controlling the switching on of a lamp inside the oven and allowing the electronic igniter of the burner to work, are opened when closing the door itself so that the lamp is switched off and the igniter is prevented from working. The actuation of the burner, with danger of an explosion, is therefore avoided when large quantities of gas have been accumulated inside the hearth of the closed oven.



The present invention relates to a device which, driven by opening of the door of a domestic gas-oven, causes a lamp inside the latter to switch on and allows the working of the automatic electronic igniter, which is instead prevented when the door is closed, with the lamp being switched off.

It is known that the recently produced domestic gas-ovens are often provided with an automatic igniter, of electronic type, for the burner. Contrary to what happens in the usual ignition of manual type, by means of matches, the oven can be ignited, in this case, also with the door being closed. This should be usually avoided as inside the hearth of the oven itself the gas can be accumulated in a certain amount before blazing-up the flame on the burner, what can involve real explosions when operating the ignition, with possibly dangerous consequences for the people around and anyhow harmful for the oven structures themselves, subjected to the shock wave of the conflagration.

It is known as well that often it is convenient and advantageous to have the oven hearth lighted when opening the door thereof, for a good view of the interior thereof, for instance when introducing therein or taking out therefrom foods. Instead the actuation of the lamp switching button, normally provided on the control panel of the gas-oven, is not a usual operation, both because it is normal to examine the food cooking point through the window with the door being closed, while switching on, in such a case, the internal lamp, and because while opening the door the hands are already busy in holding the handle and possibly grasping kitchen utensils.

The object of the present invention is a device which solves at the same time both the above cited problems, as it is mechanically operated by the gas-oven door such that, in correspondence with the open position thereof, it keeps constantly fed both the microswitch which controls the electronic igniter to allow the ignition of the burner with the door being opened, and contemporaneously also the microswitch which controls the switching on of the lamp provided inside the gas-oven.

This is obtained by assembling two normally closed contacts in a single switch connected to the power supply line of the microswitches of both the electric igniter and the internal lamp, there being provided means suitable to open such contacts in correspondence with the closing of the gas-oven door.

These and other objects, advantages and characteristics of the device according to the present invention will be clearer from the following description of a preferred embodiment thereof, given as a nonlimiting example with reference to the annexed drawings wherein:

Figure 1 shows a perspective view of the gas-oven, with some parts of the casing taken off to show the device according to this invention;

Figure 2 shows a side view of the sole device in Fig. 1 in correspondence with the closed position of the door, which is represented open as well in broken lines; and

Figure 3 is a diagram of both the device itself and the electric connections to the microswitches driven thereby.

Referring to the drawings, there is represented a gas-oven 1 having a door 2 and a device 3 according to this invention. This is preferably mounted inside a cavity 13 comprised between an external wall of the oven casing 10 and the hearth 12 thereof. The device 3 has an appendix 6, e.g. of spring steel, suitable to touch, when the door is closed, an element 4 integral with door 2.

The element 4 can be formed by a sector shaped as an arc of a circle and fixed with an end thereof to the internal frame of door 2, preferably near the lower side of the door itself, close to one of two hinges 14. A hole or a slot 8 made on the frame surrounding the mouth of hearth 12 of the gas-oven allows the element 4 to pass inside cavity 13 in which the device 3 is housed. When the door is open, element 4 is spaced apart from appendix 6 of device 3, whereas when the door is closed the free end thereof pushes appendix 6 as shown in Fig. 2, thus causing the double microswitch contained in the device 3 to click. The block representing the latter in Fig. 3 shows the two contacts which are normally closed when the door is open, through which both microswitch MA for the ignition of the burner, as being connected to the igniter AC, and microswitch ML which controls the switching on of lamp L are fed. A pilot-light suitable to signal AC working has been designated LS.

Thus it is clear that, when door 2 is open, device 3 keeps its contacts closed and therefore it is possible to operate the electronic igniter, while lamp L is on. On the contrary, when the door is closed, the element 4 pushes a fin 6 which drives device 3, thus causing the double contact to open and therefore switching off lamp L and preventing any action to operate the igniter. It is clear that an additional switch can be provided, for instance of the usual button type, to control the switching on of lamp L even when the door is closed.

Claims

1. A device driven by the opening of the door (2) of a domestic gas-oven (1) to light the interior (12) thereof and for the contemporaneous safety of the electronic ignition, characterized in that said device (3) is connected to the power supply line of a microswitch (MA) for enabling the actuation of both an electronic igniter (CA) of the burner of the gas-oven (1), and a microswitch (ML) for controlling the switching on of a lamp (L) arranged in-

side the hearth (12), means being provided (4, 6) suitable to switch said contacts in the open position when said door (2) is closed.

2. A device according to claim 1, characterized in that said device (3) comprises a control appendix (6) for opening normally closed contacts, operable by an element (4) integral with said door (2) whereby when the door is open the element (4) does not touch said appendix (6) and when the door is closed said element (4) causes the switching of the contacts of the device (3) as a consequence of the push exerted on said actuating appendix (6).
3. A device according to claim 2, characterized in that said element (4) is fixed at one end of the internal zone of the frame of the door (2), near one of two pivoting hinges (14), and is free at the opposite end, and penetrates inside the structure of the gas-oven (1) passing through a slot (8) provided on the frame of the mouth surrounding said hearth (12) of the oven.
4. A device according to claim 3, characterized in that said device (3) is housed inside a cavity (13) comprised between said hearth (12) of the gas-oven (1) and a side wall of oven casing (10) such in a position to cause said appendix (6) to touch the free end of said element (4) when closing said door (2).

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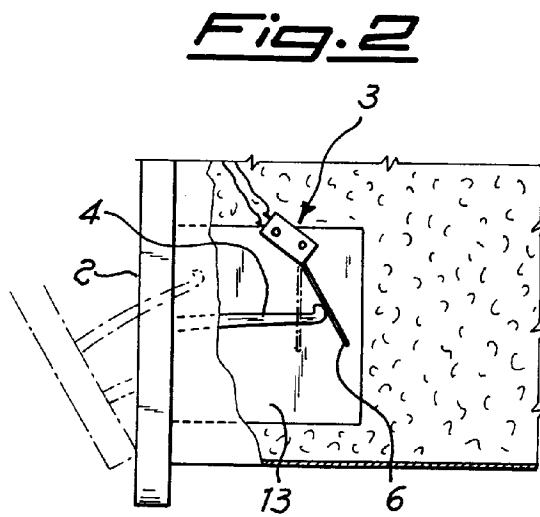
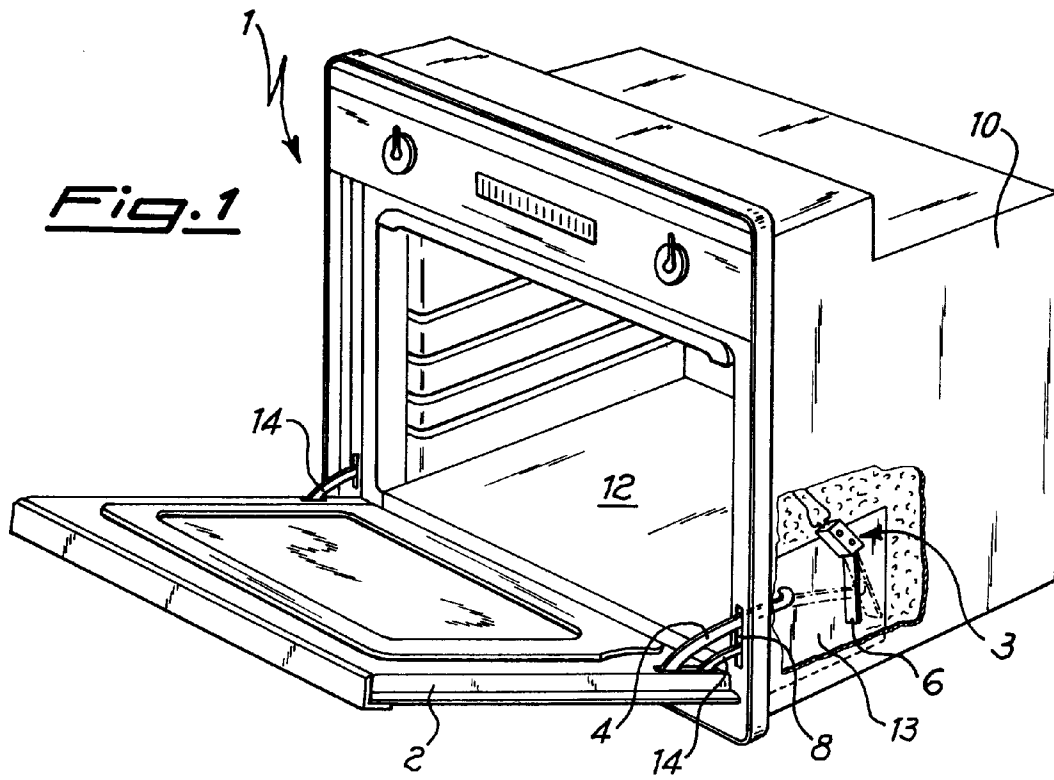


Fig. 3

