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(54) **Gas stove**

(57) A gas stove(1) includes a panel (7), a burner (3), a thermocouple (8) and an ignition needle (9) disposed near the burner (3), and at least one control switch (11) disposed on the panel (7) to control and set gas supply at the corresponding burner (3). The gas stove (1) further includes a main switch (10). When the main switch (10) is turned on, a working status of the gas stove (1) is suspended and/or locked. When the main switch (10) is turned off, the suspended and/or locked working status of the gas stove (1) is restored automatically. Regarding the gas stove (1) in the technical solution, the working status of the whole gas stove (1) can be suspended and restored rapidly and all the settings of the working status are reserved during the period of suspension.

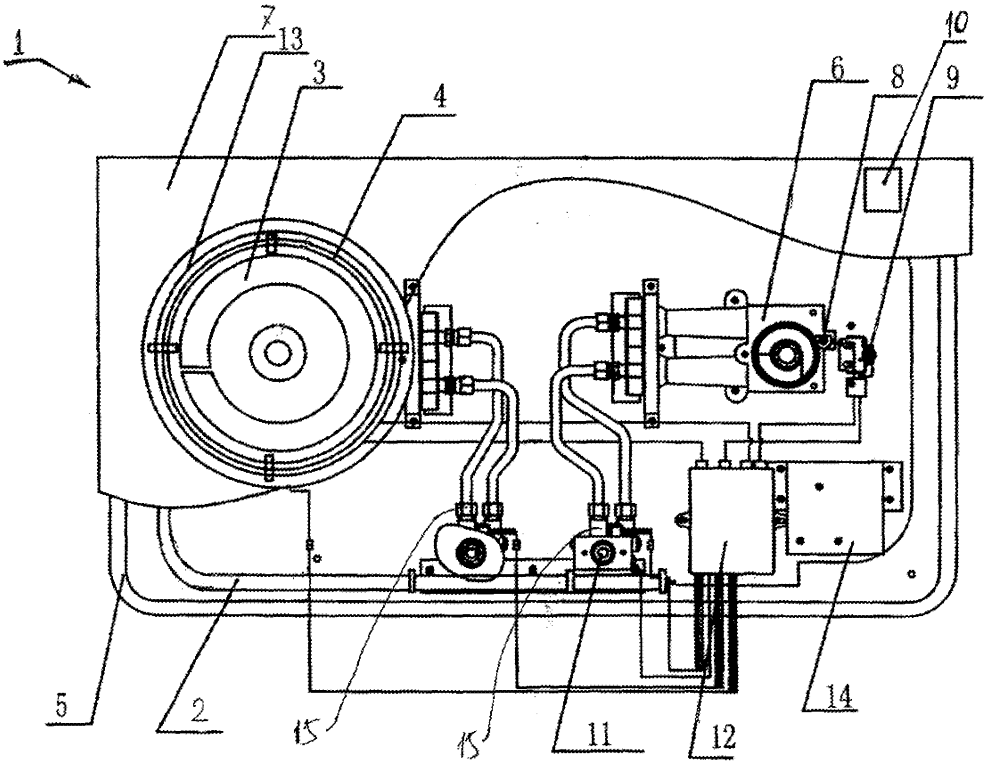


FIG. 1

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Description

BACKGROUND OF THE INVENTION

Field of Invention

[0001] The present invention relates to a gas appliance, and more particularly to a household gas stove, for example a gas cooktop.

Related Art

[0002] As a heating utensil for cooking, gas stove has already been widely used by people all over the world. However, during cooking with a gas stove, unexpected interruption always occurs, for example, a phone call need be answered and guests out of the door need be welcomed. At this time, users cannot deal with the unexpected situations leaving the gas stove working alone. Therefore, all the working burners need be completely turned off before the incidents are dealt with. After the incidents have been dealt with, users have to ignite the burners and adjust the firepower again. Especially, if two or three burners are working before, they need be adjusted and set one by one according to the previous situations. In such a process, it is quite difficult to exactly adjust the working statuses of each burner to the settings used before the accidents occur, and it is also time-consuming. Therefore, it is inconvenient for users to use such gas stoves.

[0003] In addition, in consideration of safety, the existing gas stove does not have a locking function. It is very dangerous if a child uses the gas stove without protection of an adult. Or, if the whole family must go out for a long time, in order to avoid gas leakage or fire accident due to aging of some parts or other causes during that period, a master valve of the gas usually needs to be turned off, and the operation is troublesome.

SUMMARY OF THE INVENTION

[0004] The present invention is directed to provide a gas stove that is improved in safety and usability.

[0005] The technical solution of the present invention used to solve the technical problem is described as follows. The gas stove includes a panel, a burner, a thermocouple and an ignition needle disposed near the burner, and at least one control switch disposed on the panel to control and set gas supply at the corresponding burner. The gas stove further includes a main switch. When the main switch is turned on, a working status of the gas stove is suspended and/or locked. When the main switch is turned off, the suspended and/or locked working status of the gas stove is automatically restored. Regarding the gas stove in the technical solution of the present invention, the working status of the whole gas stove can be suspended and restored rapidly and all the settings of the working status are reserved during the period of suspension.

[0006] According to an embodiment of the present invention, in the gas stove of the present invention, the main switch may be a mechanical switch, an electronic switch, or an electromechanical switch. All manufacturers and users can select the type of the switch according to actual demands.

[0007] According to an embodiment of the present invention, in the gas stove of the present invention, the main switch performs suspension and/or locking on the gas stove by cutting off gas supply at a main gas supply pipe of the gas stove or by generating a current to turn off the electromagnetic valve of the control switch. Two technical solutions are selected in the scientific research of the present invention. If the main switch is a mechanical switch in the present invention, the main switch is preferably set at the main gas supply pipeline of the gas stove. If the main switch is an electronic switch, the main switch is preferably set at the control switch, and operations of suspension or locking are performed by controlling the electromagnetic valve at the control switch.

[0008] According to an embodiment of the present invention, in the gas stove of the present invention, an executing element for turning on or off the main switch is a touch element. The switch usually includes an executing element which can be directly touched by users by hand for operation. Regarding the gas stove of the present invention, manufactures or users are allowed to select the executing element of the main switch to be a mechanical type or an electronic type, and if the executing element is selected to be electronic type, it may be a relatively advanced touch executing element.

[0009] According to an embodiment of the present invention, in the gas stove of the present invention, when the main switch is switched from an ON status to an OFF status, the electromagnetic valve at the control switch is turned on and the ignition needle performs an ignition action. When the current from the thermocouple is sufficient to maintain the electromagnetic valve at the control switch in an ON status, the ignition needle stops the ignition action. In order to rapidly restore to a working status which exists before the gas stove is suspended or locked, in the technical solution of the present invention, once an action that the main switch is switched from an OFF status to an ON status occurs, the electromagnetic valve at the control switch of the gas stove should be turned on and the ignition needle starts to perform an ignition action. When the current from the thermocouple is sufficient to maintain the electromagnetic valve at the control switch in an ON status, the ignition needle stops the ignition action. A working status before the gas stove is suspended or locked is restored.

[0010] According to an embodiment of the present invention, in the gas stove of the present invention, when the main switch is switched from an OFF status to an ON status, a current is generated to turn on the electromagnetic valve at the control switch. When an action that the main switch is switched from an OFF status to an ON

status occurs, the electromagnetic valve at the control switch of the gas stove may be turned on by one current triggered by the action.

[0011] According to an embodiment of the present invention, the gas stove of the present invention includes a battery. When the main switch is switched from an OFF status to an ON status, the current from the battery will turn on the electromagnetic valve at the control switch. When the main switch is switched from an OFF status to an ON status, the electromagnetic valve at the control switch of the gas stove may be triggered by one current from the battery.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] The present invention is further illustrated below with reference to the accompanying drawings of the specification.

FIG. 1 is a schematic structural view of a gas stove according to the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0013] Referring to FIG. 1, a gas stove 1 includes a main gas supply pipe 2, a burner 3, a panel 7, and a thermocouple 8 and an ignition needle 9 disposed near the burner 3. The gas stove 1 further includes a pot support 4, a bottom shell 5, a burner base 6 disposed around the burner 3, and at least one control switch 11 disposed on the panel 7 to control and set gas supply at the corresponding burner. The gas stove 1 further includes a main switch 10. When the main switch 10 is turned on, a working status of the gas stove is suspended and/or locked. When the main switch 10 is turned off, the suspended and/or locked working status of the gas stove is automatically restored. The gas stove 1 further includes a dripping pan 13, and an electronic igniter 12 and a battery box 14 disposed on the bottom shell 5. Regarding the gas stove 1 in the technical solution of the present invention, the working status of the whole gas stove can be suspended and restored rapidly and all the settings of the working status are reserved during the period of suspension. The main switch 10 may be a mechanical switch, an electronic switch, or an electromechanical switch. All manufacturers and users may select the type of the switch according to actual demands. The main switch 10 performs suspension and/or locking on the gas stove by cutting off gas supply at the main gas supply pipe 2 of the gas stove or by generating a current to turn off the electromagnetic valve 15 of the control switch 11. Two technical solutions are selected in the scientific research of the present invention. If the main switch 10 in the present invention is a mechanical switch, the main switch 10 is preferably disposed at the main gas supply pipeline 2 of the gas stove. If the main switch 10 is an electronic switch, the main switch 10 is preferably disposed at the control switch, and operations of suspension or locking are performed by controlling the electromagnetic valve 15 at the control switch. An executing element for turning on or off the main switch 10 is a touch element. The switch usually includes an executing element which can be directly touched by users by hand for operation. Regarding the gas stove of the present invention, manufactures or users are allowed to select the executing element of the main switch to be a mechanical type or an electronic type, and if the executing element is selected to be electronic type, it may be a relatively advanced touch executing element. Of course, the executing element for turning on or off the main switch 10 may also be a common switch button. When the main switch 10 is switched from an ON status to an OFF status, the electromagnetic valve 15 at the control switch 11 is turned on and the ignition needle performs an ignition action. When the current from the thermocouple is sufficient to maintain the electromagnetic valve 15 at the control switch in an ON status, the ignition needle stops the ignition action. In order to rapidly restore to a working status which exists before the gas stove is suspended or locked, in the technical solution of the present invention, once an action that the main switch is switched from an OFF status to an ON status occurs, the electromagnetic valve 15 at the control switch of the gas stove should be turned on and the ignition needle starts to perform an ignition action. When the current from the thermocouple is sufficient to maintain the electromagnetic valve 15 at the control switch in an ON status, the ignition needle stops the ignition action. The working status before the gas stove 1 is suspended or locked is restored. When the main switch is switched from an OFF status to an ON status, a current is generated to turn on the electromagnetic valve 15 at the control switch. When an action that the main switch is switched from an OFF status to an ON status occurs, the electromagnetic valve 15 at the control switch of the gas stove may be turned on by one current triggered by the action. The gas stove 1 further includes a battery. The battery is disposed within a battery box 14 on the bottom shell 5. The battery may be a normal dry battery or a rechargeable battery. When the main switch 10 is switched from an OFF status switch to an ON status, the current from the battery will turn on the electromagnetic valve 15 at the control switch. When an action that the main switch 10 is switched from an OFF status to an ON status occurs, the electromagnetic valve 15 at the control switch 11 of the gas stove 1 may be triggered by one current from the battery.

Claims

1. A gas stove (1), comprising: a panel (7); a burner (3); a thermocouple (8) and an ignition needle (9), disposed near the burner (3); and at least one control switch (11) disposed on the panel (7) to control and set gas supply at the corresponding burner (9), wherein the gas stove (1) further comprises a main

switch (10), a working status of the gas stove (1) is suspended and/or locked when the main switch (10) is turned on, and the suspended and/or locked working status of the gas stove (1) is restored automatically when the main switch (10) is turned off.

2. The gas stove according to claim 1, wherein the main switch (10) is a mechanical switch, an electronic switch, or an electromechanical switch.

3. The gas stove according to claim 1 or 2, wherein the main switch (10) performs suspension and/or locking on the gas stove (1) by cutting off gas supply at a main gas supply pipe (2) of the gas stove (1) or by generating a current to turn off an electromagnetic valve (15)at the control switch (11).

4. The gas stove according to any of claims 1 to 3, wherein an executing element for turning on or off the main switch (10) is a touch element.

5. The gas stove according to claim 3 or 4, wherein the electromagnetic valve (15) at the control switch (11) is turned on and the ignition needle (9) performs an ignition action when the main switch (16) is switched from an ON status to an OFF status, and the ignition needle (9) stops the ignition action when a current from the thermocouple (8)is sufficient to maintain the electromagnetic valve (15) at the control switch (11) in an ON status.

6. The gas stove according to any of claims 3 to 5, wherein a current is generated to turn on the electromagnetic valve (15) at the control switch (11) when the main switch (10) is switched from an OFF status to an ON status.

7. The gas stove according to claim 5 or 6, further comprising a battery, wherein a current from the battery turns on the electromagnetic valve (15) at the control switch (11) when the main switch (10) is switched from an OFF status to an ON status.

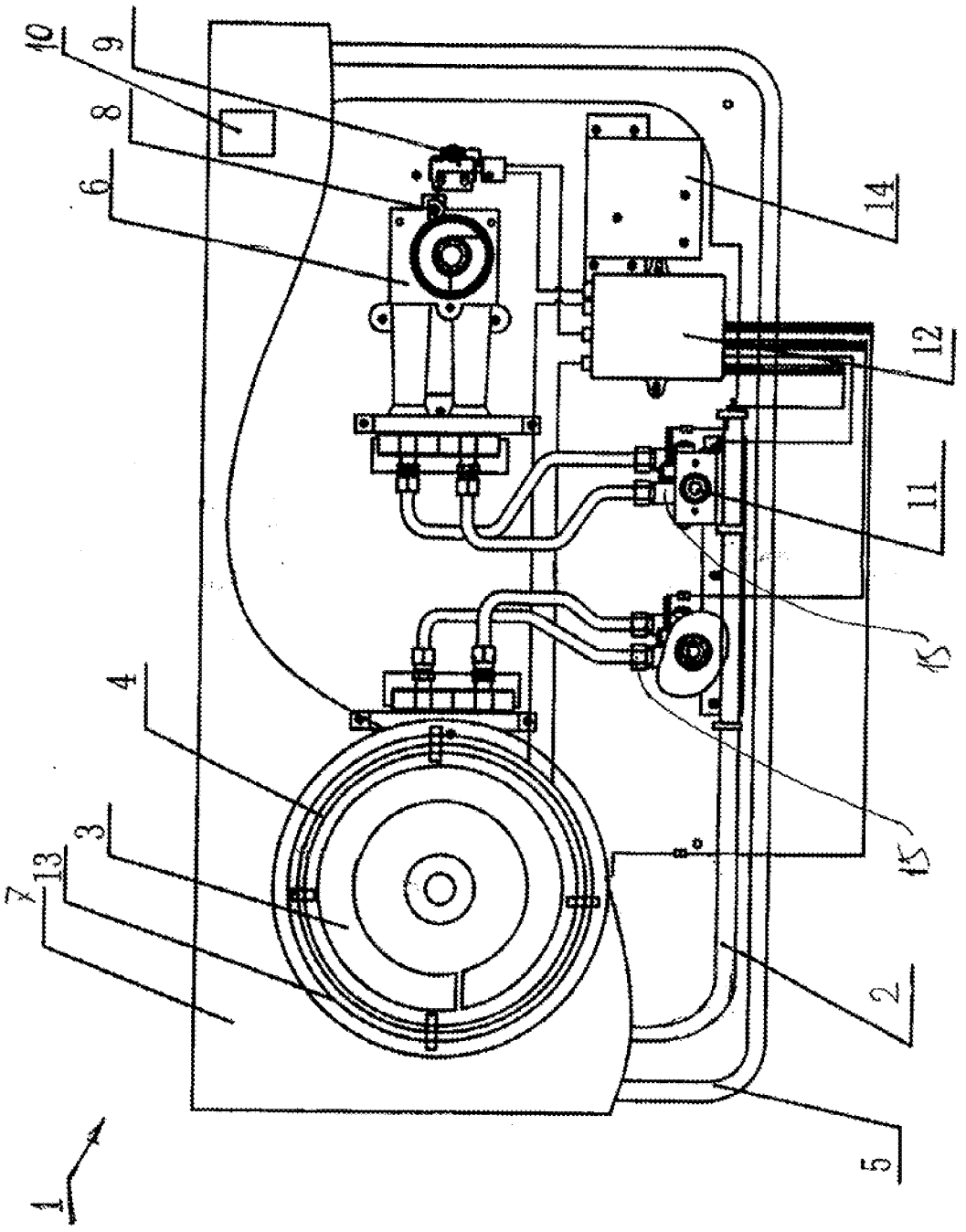


FIG. 1