Claims

1. A gas valve timing shut-off device for gas stove, characterized in that it comprises:

DC stabilized power supply (1) and voltage feedback circuit (2); the said voltage feedback circuit (2) receives a DC voltage change value outputted by DC stabilized power supply (1), and after having the DC voltage change value outputted by DC stabilized power supply (1) processed, outputs it to DC stabilized power supply (1) so as to stabilize the output DC voltage of DC stabilized power supply (1); and the DC voltage outputted by DC stabilized power supply (1) provides DC working voltage to the following devices; and

Central processing unit (3), alarm (4), encoder (5), LED display (6), ignition signal controller (7) and execution circuit (8); wherein, the said encoder (5) inputs burning time signals required by gas stove into central processing unit (3), the said central processing unit (3), after having the received burning time signals processed, outputs them to LED display (6), ignition signal controller (7) and execution circuit (8) respectively; the said LED display (6) displays the burning time signals inputted by central processing unit (3) and feeds back the displayed time signals to central processing unit (3); the said ignition signal controller (7), after receiving the burning time signals inputted by central processing unit (3), controls the igniter work of gas stove; the central processing unit (3), after having the received burning time signals processed, outputs them to a solenoid valve of gas stove to have the solenoid valve of gas stove opened; and the said execution circuit (8), after having the signals inputted by central processing unit (3) processed, controls the solenoid valve work of gas stove;

wherein the said central processing unit (3) comprises a master chip (MCU), the model of which is TM57PA40 and it totally has twenty pins; Pin 13 of the

master chip (MCU) is electrically connected to the input end of alarm (4), Pin 9 and 10 of the master chip (MCU) are electrically connected to the output ends of encoder (5) respectively, Pin 11 of the master chip (MCU) is electrically connected to the linked switch of one solenoid valve of gas stove through Resistor 23 (R23), Pin 12 of the master chip (MCU) is electrically connected to the linked switch of another solenoid valve of gas stove through Resistor 24 (R24), Pin 15 of the master chip (MCU) is electrically connected to the linked switch of yet another solenoid valve of gas stove through Resistor 25 (R25), Pin 16 of the master chip (MCU) is electrically connected to the linked switch of still another solenoid valve of gas stove through Resistor 26 (R26), Pin 2 and 3 of the master chip (MCU) are electrically connected to the input ends of ignition signal controller (7) respectively, Pin 7 and 8 of the master chip (MCU) are electrically connected to the input ends of execution circuit (8), Pins 14, 18, 19, 5, 6, 11, 12, 15, 16, and 17 of the master chip (MCU) are electrically connected to the input and output ends of LED display (6), Pin 20 of the master chip (MCU) is connected to +4.5V DC voltage outputted by DC stabilized power supply (1), and Pin 1 of the master chip (MCU) is connected to the output ground of DC stabilized power supply (1). Pin 4 of the master chip (MCU) is connected to one end of Resistor 14 and Capacitor 11 respectively, with the other end of Resistor 14 connected to +4.5V DC voltage outputted by DC stabilized power supply (1), and with the other end of Capacitor 11 connected to the ground.

2. The gas valve timing shut-off device for gas stove according to Claim 1, is characterized in that the said encoder (5) comprises a key encoder (PG) and resistors 19-22 (R19-R22); wherein, the model of the said key encoder (PG) is EC111002T2D-HA1-002; one end of the said Resistor 19 (R19) is electrically connected to Pin 9 of the master chip (MCU), and the other end is electrically connected to one end of Resistor 22 (R22) and one output pin of the key encoder (PG) respectively, and the other end of Resistor 22 (R22) is connected to +4.5V DC voltage outputted by DC stabilized power supply (1); one end of the said

Resistor 20 (R20) is electrically connected to Pin 10 of the master chip (MCU), and the other end is electrically connected to one end of Resistor 21 (R21) and the other output pin of key encoder (PG) respectively, and the other end of Resistor 21 (R21) is connected to +4.5V DC voltage outputted by DC stabilized power supply (1).

3. The gas valve timing shut-off device for gas stove according to Claim 1, is characterized in that the said LED display (6) comprises a display panel (LED), Resistors 27-32 (R27-R32) and Triodes 2-4 (Q2-Q4); wherein, the model of the said display panel (LED) is ULF-5361, and it totally has 11 pins; one end of the said Resistor 27 (R27) is electrically connected to Pin 19 of the master chip (MCU), and the other end is electrically connected to one end of Resistor 32 (R32) and the base electrode of Triode 4 (Q4) respectively, the other end of the said Resistor 32 (R32) and the emitter electrode of Triode 4 (Q4) both are grounded, and the collector electrode of the said Triode 4 (Q4) is electrically connected to Pin 9 of the display panel (LED); one end of the said Resistor 28 (R28) is electrically connected to Pin 18 of the master chip (MCU), and the other end is electrically connected to one end of Resistor 31 (R31) and the base electrode of Triode 3 (Q3), the other end of the said Resistor 31 (R31) and the emitter electrode of Triode 3 (Q3) both are grounded, and the collector electrode of the said Triode 3 (Q3) is electrically connected to Pin 8 of the display panel (LED); one end of the said Resistor 29 (R29) is electrically connected to Pin 14 of the master chip (MCU), and the other end is electrically connected to one end of Resistor 30 (R30) and the base electrode of Triode 2 (Q2) respectively, the other end of the said Resistor 30 (R30) and the emitter electrode of Triode 2 (Q2) both are grounded, and the collector electrode of the said Triode 2 (Q2) is electrically connected to Pin 12 of the display panel (LED).

4. The gas valve timing shut-off device for gas stove according to Claim 1, is characterized in that the said ignition signal controller (7) comprises Triode 5 (Q5), Capacitor 12 (C12), Electrolytic Capacitor 7 (E7) and Resistors 39-43

(R39-R43); wherein, one end of the said Resistor 39 (R39) is electrically connected to one end of Resistor 36 (R36), and the other end is electrically connected to the igniter; the other end of Resistor 36 (R36) is electrically connected to Pin 2 of the master chip (MCU) and one end of Resistor 55 (R55), the other end of Resistor 55 (R55) is electrically connected to +4.5V output of DC stabilized power supply (1); one end of the said Resistor 40 (R40) is electrically connected to one end of Resistor 35 (R35) and one end of Resistor 41 (R41) respectively, and the other end of Resistor 40 (R40) is electrically connected to another igniter; the other end of Resistor 35 (R35) is electrically connected to Pin 3 of the master chip (MCU) and one end of Resistor 54 (R54), and the other end of Resistor 54 (R54) is electrically connected to +4.5V output of DC stabilized power supply (1); the other end of Resistor 41 (R41) is electrically connected to the base electrode of Triode 5 (Q5) and one end of Resistor 42 (R42) respectively, the other end of Resistor 42 (R42) is electrically connected to the emitter electrode of Triode 5 (Q5) and one end of Resistor 43 (R43) respectively, the emitter electrode of Triode 5 (Q5) is connected to +2.7V output DC voltage of DC stabilized power supply (1), the other end of Resistor 43 (R43) is electrically connected to one end of Capacitor 12 (C12), the positive end of Electrolytic Capacitor 7 (E7) and the collector electrode of Triode 5 (Q5) respectively, and the base electrode of Triode 5 (Q5) provides working voltage to the igniter.

5. The gas valve timing shut-off device for gas stove according to Claim 1, is characterized in that the said execution circuit (8) comprises a driver chip (IC2), Relays 1-6 (J1-J6), Resistors 44-53 (R44-R53), Diodes 12-15 (D12-D15), Inductive Coils 2-5 (L2-L5), Electrolytic Capacitor 8 (E8) and Electrolytic Capacitor 9 (E9); wherein, the model of the said driver chip (IC2) is ULN2001 and it totally has eight pins, Pin 1 of the driver chip (IC2) is electrically connected to Pin 8 of the master chip (MCU) through Resistor 37 (R37) and Resistor 33 (R33), Pin 2 of the driver chip (IC2) is electrically connected to Pin 7

of the master chip (MCU) through Resistor 38 (R38) and Resistor 34 (R34), Pin 7 of the driver chip (IC2) is electrically connected to one end of Relay 3 (J3) and Relay 6 (J6) respectively, the other end of Relay 3 (J3) and Relay 6 (J6) both are connected to +4.5V DC voltage outputted by DC stabilized power supply (1), Pin 8 of the driver chip (IC2) is electrically connected to one end of Relay 1 (J1), Relay 2 (J2), Relay 4 (J4), and Relay 5 (J5) respectively, and the other end of Relay 1 (J1), Relay 2 (J2), Relay 4 (J4), and Relay 5 (J5) are connected to +4.5V DC voltage outputted by stabilized power supply (1); the normally open contact of Relay 1 (J1) is electrically connected to one end of Resistor 44 (R44), and its control end is electrically connected to one end of Inductive Coil 2 (L2) and the negative electrode of Diode 12 (D12) respectively, the other end of Resistor 44 (R44) is connected to +4.5V DC voltage outputted by DC stabilized power supply (1), the other end of Inductive Coil 2 (L2) is grounded, and Inductive Coil 2 (L2) is winded onto the solenoid valve (M1) controlled by it; the normally open contact of Relay 2 (J2) is electrically connected to one end of Resistor 45 (R45), and its control end is electrically connected to one end of Inductive Coil 3 (L3) and the negative electrode of Diode 13 (D13) respectively, the other end of Resistor 45 (R45) is connected to +4.5V DC voltage outputted by DC stabilized power supply (1), the other end of Inductive Coil 3 (L3) is grounded, and Inductive Coil 3 (L3) is winded onto the solenoid valve (M2) controlled by it; the normally open contact of Relay 3 (J3) is electrically connected to one end of Resistor 46 (R46), its control end is electrically connected to the positive end of Electrolytic Capacitor 8 (E8), and its normally closed contact is electrically connected to one end of Resistor 47 (R47) and Resistor 48 (R48) respectively, the negative end of Electrolytic Capacitor 8 (E8) is grounded, the other end of Resistor 47 (R47) is electrically connected to the positive electrode of Diode 13 (D13), and the other end of Resistor 48 (R48) is electrically connected to the positive electrode of Diode 12 (D12); the normally open contact of Relay 4 (J4) is electrically connected to one end of Resistor 49 (R49), its control end is

electrically connected to one end of Inductive Coil 4 (L4) and the negative electrode of Diode 14 (D14) respectively, the other end of Resistor 49 (R49) is connected to +4.5V DC voltage outputted by DC stabilized power supply (1), the other end of Inductive Coil 4 (L4) is grounded, and Inductive Coil 4 (L4) is winded onto the solenoid valve (M3) controlled by it; the normally open contact of Relay 5 (J5) is electrically connected to one end of Resistor 50 (R50), its control end is electrically connected to one end of Inductive Coil 5 (L5) and the negative electrode of Diode 15 (D15) respectively, the other end of Resistor 50 (R50) is connected to +4.5V DC voltage outputted by DC stabilized power supply (1), the other end of Inductive Coil 5 (L5) is grounded, and Inductive Coil 5 (L5) is winded onto the solenoid valve (M4) controlled by it; the normally open contact of Relay 6 (J6) is electrically connected to one end of Resistor 51 (R51), its control end is electrically connected to the positive end of Electrolytic Capacitor 9 (E9), and its normally closed contact is electrically connected to one end of Resistor 52 (R52) and Resistor 53 (R53) respectively, the negative end of Electrolytic Capacitor 9 (E9) is grounded, the other end of Resistor 52 (R52) is electrically connected to the positive electrode of Diode 15 (D15), and the other end of Resistor 53 (R53) is electrically connected to the positive electrode of Diode 14 (D14).