

C. STAMM.
ELECTRIC IGNITING DEVICE FOR GAS STOVES.
APPLICATION FILED MAR. 16, 1908. RENEWED JULY 9, 1910.

969,993.

Patented Sept. 13, 1910.

2 SHEETS—SHEET 1.

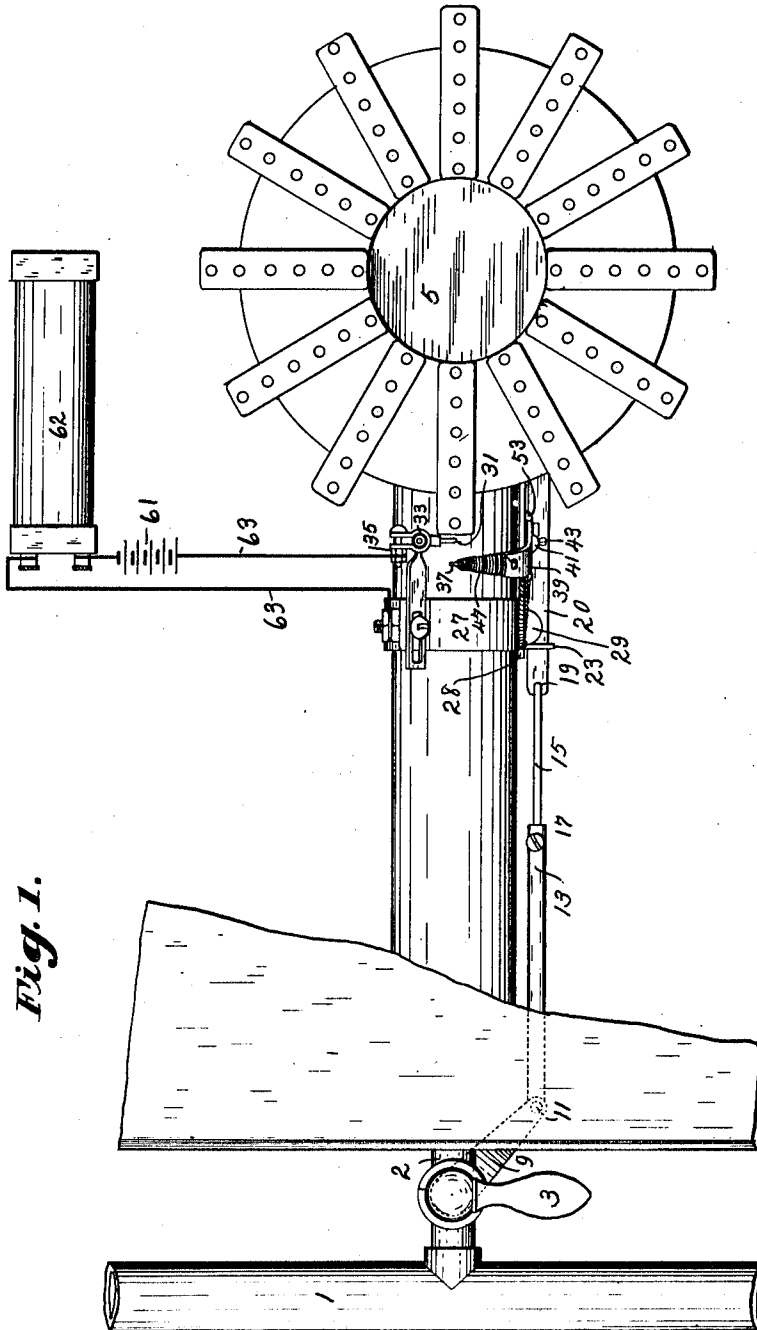


Fig. 1.

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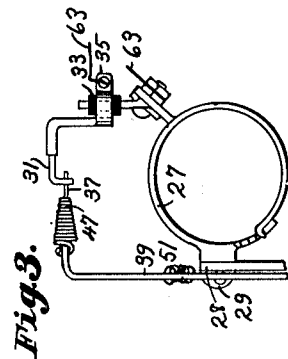
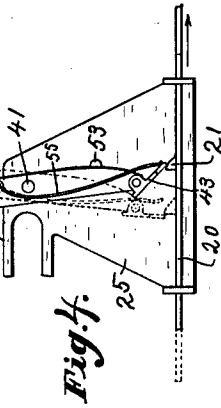
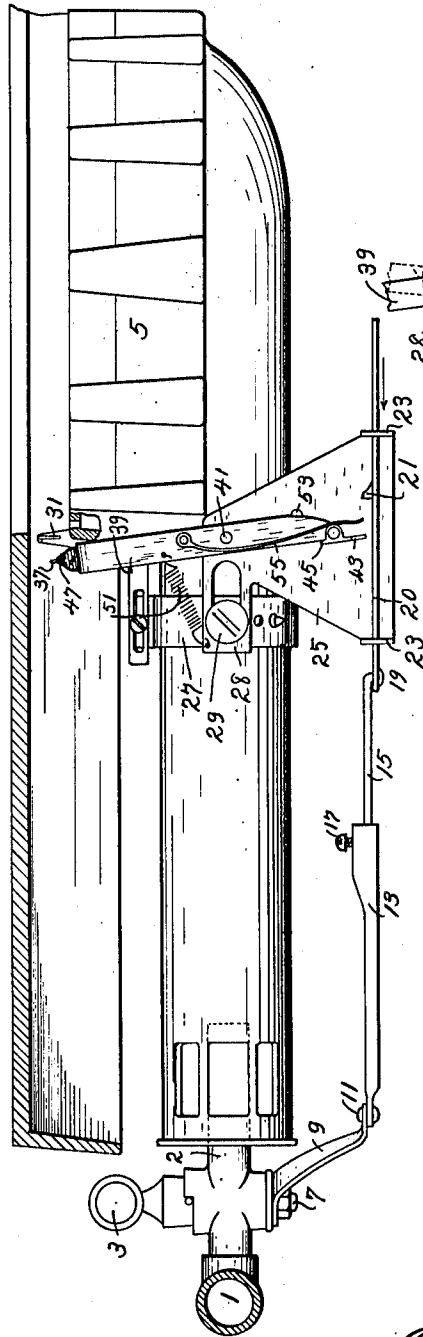
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2 SHEETS—SHEET 2.

Fig. 2.



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UNITED STATES PATENT OFFICE.

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ELECTRIC IGNITING DEVICE FOR GAS-STOVES.

969,993.

Specification of Letters Patent. Patented Sept. 13, 1910.

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To all whom it may concern:

Be it known that I, CHARLES STAMM, a citizen of the United States, residing at Milwaukee, county of Milwaukee, and State of Wisconsin, have invented new and useful Improvements in Electric Igniting Devices for Gas-Stoves, of which the following is a specification.

My invention relates to improvements in electric igniting devices for gas stoves.

The object of my invention is to provide a form of igniter which will be operated from the gas valve and can be easily applied to any ordinary form of gas stove and which will not be easily affected in its operation by dirt or grease.

A further object of my invention is to provide a form of construction in which ignition will be insured by providing for a double spark and in which the parts of the igniter proper will be immediately restored to normal position and remain unaffected by the operation of closing the valve or by any intermediate adjustment for the purpose of regulating the volume of the flame.

In the following description reference is had to the accompanying drawings in which,—

Figure 1 is a plan view illustrating my invention as it is applied to an ordinary gas stove. Fig. 2 is a side view of the same showing a portion of the stove and burner in section. Fig. 3 is a detail rear view of the igniter electrodes. Fig. 4 is a detail view of the igniter trip illustrating the different positions.

Like parts are identified by the same reference characters throughout the several views.

1 is the common service pipe of the gas stove from which branch 2 leads to the burner, the supply of gas to each burner being controlled by an ordinary valve operated by a lever 3.

5 represents one of the burners of the stove.

The valve stem 7 is extended downwardly through the valve casing and is provided with a rigidly attached arm 9 which extends laterally and downwardly from the end of the valve stem and has jointed connections at 11 with an adjustable connecting rod comprising slip jointed sections 13 and 15, the section 15 being socketed in the section

13 and secured in any desired position of longitudinal adjustment by a set screw 17. This slip joint between the sections 13 and 15 allows the connecting rod to be lengthened or shortened to suit the requirements of the different stoves or burners. The rear end of the connecting rod 15 has jointed connection at 19 with a sliding trip actuating bar 20, which bar is provided with an upwardly projecting lug 21, the rear face of which is beveled, while the front face extends vertically from the bar 20. The bar 20 is slidably mounted in bearing members 23 carried by a bracket 25 which is supported from the pipe 2 by means of a collar 27, the bracket 25 having a slotted arm 28 adjustably connected with the collar by a set screw 29, whereby a limited adjustment of the bracket, longitudinally of the pipe, is permitted independently of any possible adjustment of the collar 27 along this pipe.

A fixed electrode 31 is supported from the collar 27 on the opposite side from that to which the bracket 25 is connected. This electrode 31 is insulated at 33 from the collar and is provided with a binding post 35 for the necessary electrical connections. A movable electrode 37 is mounted upon a swinging lever 39 which is pivoted to the bracket 25 at 41 and is actuated in one direction by the forward movement of the lug 21 which is adapted to engage a one-way swinging trip 43 which is pivotally mounted on the lower end of the lever 39. One arm 45 of this trip is adapted to abut the lever when the trip is in normal position and prevent the lower end of the trip from swinging forwardly from its position. The lower end of the trip is in the path of the lug 21 and when engaged by the latter during a forward movement of the bar 20, the lower end of the lever is pushed forwardly and the electrode 37 caused to make and break contact with the electrode 31 by striking the latter and then passing it, the electrode 37 being provided with the ordinary coiled spring 47 which permits it to yield in passing the electrode 31. As soon as the lug 21 is moved forwardly a sufficient distance to clear the trip 43, the lever 39 is restored to normal position by a spring 51, the ends of which are connected with the upper arm of the lever 39 and with the bracket arm 28 respectively. During this

reactionary movement the electrode 37 again contacts with and passes electrode 31 and produces a second spark.

The above described means are secured by the operation of opening the gas valve which causes the arm 9 to swing forwardly causing a corresponding pull upon the bar 20. When the valve is closed, the lug 21 again contacts with the trip 43 but the trip is free to yield rearwardly as illustrated in Fig. 4 and therefore does not actuate the lever 39, the latter being also prevented from moving in this direction by a stop 53 of the bracket 25. A spring 55 is preferably employed to insure the restoration of the trip to its normal position after the lug 21 has moved to the rear thereof, this spring being especially desirable for the reason that the trip may be covered with dirt or grease from the stove, sufficient to prevent its moving freely by gravity.

It will thus be obvious that upon opening the gas valve, the trip lever 39 is positively actuated in one direction and produces an igniting spark as the electrode 37 makes and breaks contact with the electrode 31, and that a second spark will be produced during the reactionary movement of this lever under the tension of the spring 51 and after the lug 21 has passed the trip 43. The valve may then be moved to various positions to regulate the flame without affecting the igniter. When the valve is closed, the lug 21 passes the trip 43 without affecting the igniter, owing to the fact that the trip is permitted to yield freely in this direction under the pressure of the beveled face of the lug 21.

61 represents a battery or other source of electrical energy and 62 a spark coil.

63 represents the electrical conductors, the terminals of which are connected with the fixed electrode and through the frame with the movable electrode respectively.

I attach great importance to the use of the sliding bar and means for actuating it below the gas supply pipe, since this arrangement enables me to apply my invention to the rear burners with the same facility as to those in front, the only difference being in the length of the bar. The space below the gas pipes is unobstructed, and these bars may therefore extend directly from the valves to the trip mechanisms. As this bar is mounted in sliding bearings on the trip supporting bracket, no special adjustments are required to support the bar in its proper relation to any given burner.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is,—

1. In an igniter of the described class, the combination with a burner a gas supply pipe therefor, and a valve for said pipe controlling the flow of gas to the burner, of a set

of relatively movable electrodes, operatively located with reference to the burner, and connections for actuating said electrodes, attached to the gas valve below the supply pipe; said connections including a longitudinally sliding bar and a connecting rod formed in adjustable sections, whereby the motion of the rotary valve may be transmitted to the bar and the distance lengthened or shortened in correspondence with the distance from the valve to the burner.

2. In an igniter of the described class, the combination with a burner a gas supply pipe therefor, and a valve for said pipe controlling the flow of gas to the burner, of a set of relatively movable electrodes, operatively located with reference to the burner, and connections for actuating said electrodes, attached to the gas valve below the supply pipe, said connections including a spring retracted upright trip mechanism adapted to be actuated from the valve in one direction only, and a sliding bar operatively connected with the valve and having a projection adapted to engage and actuate the trip mechanism during the first portion of the inward movement of the bar and to move past the trip mechanism during the final inward movement.

3. In an igniter of the described class, the combination with a burner and a gas supply pipe, of a valve therefor provided with a stem extending below the pipe, an electrical igniter operatively located with reference to the burner, a swinging arm rigidly connected with the lower end of the valve stem, a spring retracted trip mechanism for operating the igniter, and a sliding bar operatively connected with the swinging arm and arranged to operate the trip mechanism during its inward movement.

4. The combination with a gas supply pipe and burner, of a pipe engaging clamp, a fixed electrode supported therefrom, a bracket supported from the clamp, a sliding bar carried by the bracket, a swinging lever, a trip arranged to transmit motion from the sliding bar to the lever in one direction only; a spring arranged to restore the lever to normal position, an electrode mounted upon the upper end of the lever, and a fixed electrode mounted on an insulating support in the path of the other electrode.

5. The combination with a gas supply pipe and burner, of a pipe engaging clamp, a fixed electrode supported therefrom, a bracket supported from the clamp, a sliding bar carried by the bracket, a swinging lever, a trip arranged to transmit motion from the sliding bar to the lever in one direction only; a spring arranged to restore the lever to normal position, an electrode mounted upon the upper end of the lever, and a fixed electrode mounted on an insulating support in the path of the other electrode, said trip

comprising a one way oscillating member mounted on said lever in the path of a projection on the sliding bar, together with a spring arranged to restore said oscillating member to normal position after it clears said projection.

6. In an electric gas igniter, the combination with a burner and the valve for controlling the supply of gas thereto, of an electrode secured near the burner, a pivotally mounted arm, an electrode secured to the arm, a spring adapted to normally hold the arm in position to retain its electrode out of engagement with the electrode carried by the burner, a pull rod secured at one end to the valve, the free end of the pull rod being disposed for engagement with the arm, and means adapted to retain the free end of the pull rod in engagement with the arm until the valve is fully opened.

7. In an electric gas igniter, the combination with a burner and the valve adapted to control the supply of gas thereto, of a bracket secured near the burner, an electrode secured to the bracket, a pivotally mounted arm, an electrode secured to one member of the arm, a spring adapted to normally hold the arm in position to retain the electrodes out of engagement with each

other, and a pull rod secured at one end to the valve, the opposite end of the pull rod being connected with the other member of said arm.

8. In an igniter of the described class, the combination with a burner, a gas supply pipe therefor, and a valve for said pipe controlling the flow of gas to the burner, of a set of relatively movable electrodes, operatively located with reference to the burner, and connections for actuating said electrodes, attached to the gas valve, said connections including a spring retracted upright trip mechanism adapted to be actuated from the valve in one direction only, and a sliding bar operatively connected with the valve and having a projection adapted to engage and actuate the trip mechanism during the first portion of the inward movement of the bar and to move past the trip mechanism during the final inward movement.

In testimony whereof I affix my signature in the presence of two witnesses.

CHARLES STAMM.

Witnesses:

O. R. ERWIN,

LEVERETT C. WHEELER.