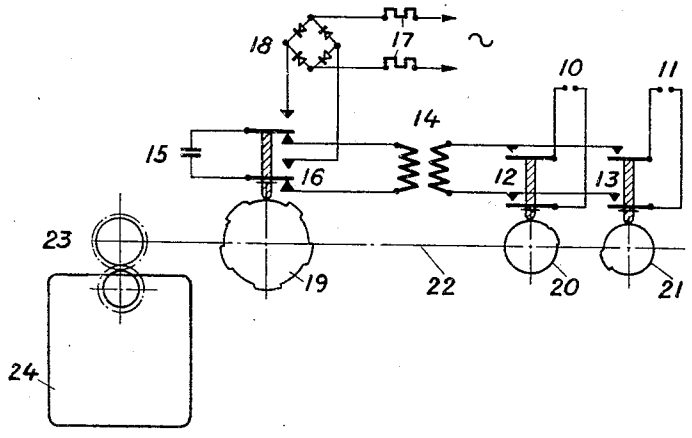
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ELECTRIC GASLIGHTER

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ELECTRIC GASLIGHTER

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5 Claims. (Cl. 175—115)

The present invention relates to electric gas-lighters and relates more particularly to such electric gas-lighters for gas stoves or the like in which the gas is lighted upon actuation of a contact device, preferably by means of an electric spark generated in a spark-gap provided adjacent the burner.

Electric gas-lighters are known in which the spark is produced by an induction coil which is connected to a primary current source for a brief moment upon the opening of the gas cock. This device has the inconvenience, however, that in the event of the flame becoming extinguished while the gas cock is still open the gas will not be re-ignited but will stream out into the room forming an explosive and poisonous gas mixture with the air in the room. This inconvenience found in previously known gas-lighters is avoided according to the present invention by providing for a periodical actuation of the contact device and a resultant repetition of the electric igniting impulse/spark or the like/so long as gas continues to flow through the gas pipe to the burner, the flowing gas itself being made to actuate the contact device, for instance through the intermedium of the counting mechanism of the ordinary gas meter. In case the gas-lighter is to be used for a plurality of burners provisions may be made according to the invention to have the various spark gaps, ignition filaments or the like, which are allotted to the respective burners, connected into the ignition circuit consecutively and in unison with the periodically actuated contact device, thus avoiding the division of the electric energy available on several spark gaps or the like simultaneously.

The invention will now be described more in detail, reference being had to the drawing forming part of this specification and illustrating diagrammatically a preferred embodiment.

The drawing illustrates an electric gas-lighter for two burners each provided with a spark gap 10 or 11 respectively which with the aid of an appertaining auxiliary contact device 12 or 13 respectively can be connected to the secondary side of a transformer 14. Through the primary winding of the transformer is periodically discharged a condenser 15 which through the aid of a periodically operating contact device 16 is connected alternately to the direct current terminals of a rectifier bridge 18 and to the primary winding of the transformer, the rectifier bridge being permanently connected to an alternating current source in series with two ohmic resistances 17. The contact device 16 and the auxiliary contact devices 12 and 13 are controlled each by an appertaining cam 19, 20 and 21 respectively, said cams being provided on a common shaft 22 which is driven through a suitable gearing 23 from the counting mechanism of the gas meter 24.

The gas-lighter mechanism just described operates in the following manner. Whenever gas is flowing out through one or more of the burners the counting mechanism of the gas meter 24 will be moving, then driving through the gearing 23 the shaft 22 at a speed which is proportional to the amount of gas supplied to the burners per unit of time. The cam 19 then brings the contact device 16 to connect the condenser 15 alternately to the rectifier bridge 18, the condenser being then charged comparatively slowly through the ohmic resistances 17, and to the primary winding of the transformer 14, the condenser just charged being then rapidly discharged through the latter. The discharge causes a high electromotive force to be induced in the secondary winding of the transformer. The cams 20 and 21 are so shaped that one of the spark gaps 10 and 11 will be connected to the secondary winding each time a discharge of the condenser takes place, so that the voltage induced in the secondary winding will cause a spark alternately in the two spark gaps. Since the spark discharges are periodically repeated in this manner at all the burners, this will insure that a flame that happens to have become extinguished will be ignited anew before any considerable amount of gas has had time to flow out into the room.

Since in the shown embodiment there is never direct electric connection between the source of energy and the spark gaps the transmission of energy will cease completely when the gas meter stops irrespective of the position then occupied by the cam 19.

The shaft 22 must, of course, not necessarily be actuated by the gas meter, although this is for the present considered to be the preferred arrangement, but it is also possible to drive the shaft from a suitable separate gas turbine which is included in the gas pipe leading to the gas burners. Furthermore, it is not essential for the invention whether the transmission of energy from the source of current to the ignition device is effected with the aid of a condenser as shown on the drawing or in some other manner, for example by means of an induction coil. Furthermore, the contact device included in the connection can be of any desired kind. Generally all such modifications of the described embodiment

can be effected as fall within the scope of the appended claims.

I claim:—

1. An electric gas-lighter for gas-heated kitchen stoves or the like having one or more burners, comprising in combination a source of electric energy, an ignition circuit, a first contact device for periodically connecting said source of electric energy to said ignition circuit, a plurality of ignition members, one ignition member being provided at each burner, a second contact device operating in unison with said first contact device for consecutively connecting each one of said ignition members to said ignition circuit when energized, and means for operating said first and said second contact devices, said means being driven by the gas current flowing to the burners.

2. An electric gas-lighter for gas-heated kitchen stoves or the like having one or more burners, comprising in combination a number of ignition members, at least one ignition member being provided adjacent each burner, a source of electric energy, a condenser, a contact device for periodically connecting said condenser alternately to said source of electric energy and to said ignition members, and means for operating said contact device, said means being driven by the gas current flowing to the burners.

3. An electric gas-lighter according to claim 2, characterized by the provision of a transformer in the circuit connecting the condenser to the ignition members.

4. An electric gas-lighter for gas-heated kitchen stoves or the like having one or more burners, comprising in combination a number of ignition members, at least one ignition member being provided adjacent each burner, a source of electric energy, a contact device for periodically transmitting electric energy from said source to said ignition members, a gas meter included in the pipe through which gas is supplied to said burners, and coupling means for connecting a moving part of said gas meter to said contact device.

5. An electric gas-lighter for gas-heated kitchen stoves or the like having a plurality of burners, comprising in combination a source of electric energy, a condenser, an ignition circuit, a first contact device for periodically connecting said condenser alternately to said source of electric energy and to said ignition circuit, a plurality of spark gaps, one spark gap being provided adjacent each burner, a second contact device adapted to operate in unison with said first contact device for consecutively connecting each one of said spark gaps to said ignition circuit when energized, a cam shaft for operating said first and said second contact device, a gas meter provided in the pipe delivering gas to said burners, and coupling means for connecting the counting mechanism of said gas meter to said cam shaft.

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