

(No Model.)

H. G. GRIER.
ELECTRIC GAS LIGHTER.

No. 542,959.

Patented July 16, 1895.

FIG. 1.

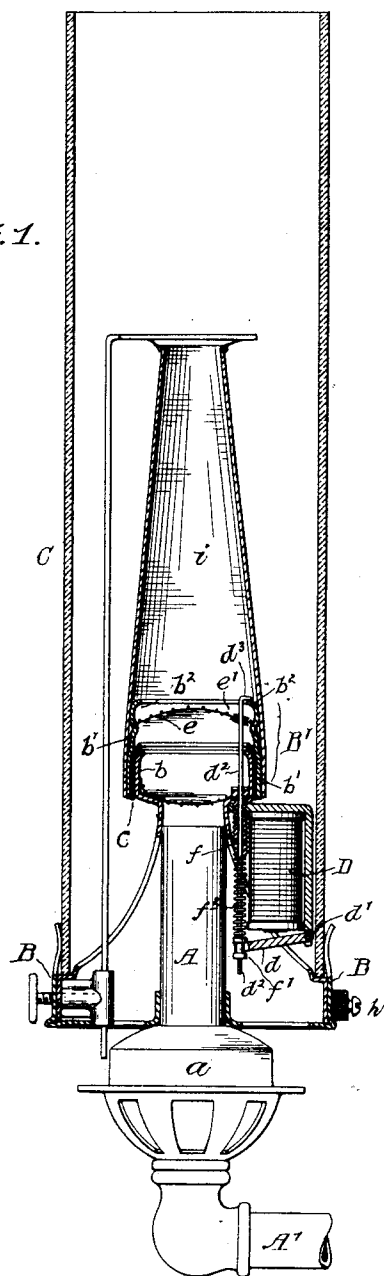


FIG. 2.

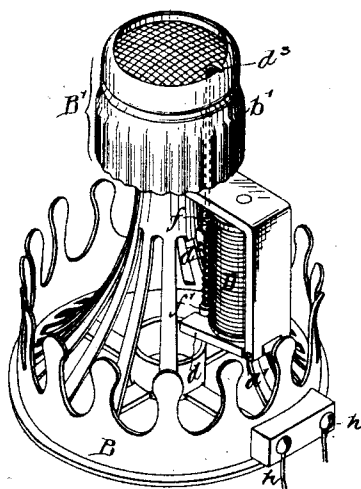
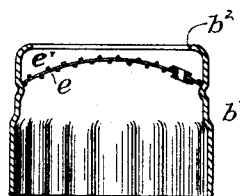


FIG. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

HARRY G. GRIER, OF PHILADELPHIA, PENNSYLVANIA.

ELECTRIC GAS-LIGHTER.

SPECIFICATION forming part of Letters Patent No. 542,959, dated July 16, 1895.

Application filed May 31, 1895. Serial No. 551,122. (No model.)

To all whom it may concern:

Be it known that I, HARRY G. GRIER, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain
5 Improvements in Electric Gas-Lighters, of which the following is a specification.

The object of my invention is to construct an automatic electric gas-lighter that will be particularly adapted for "Welsbach" burn-
10 ers and which may be carried wholly by the shade-holder and can be made detachable with the shade-holder from the fixed portion of the burner.

A further object of my invention is to so
15 construct the burner that the screen will be below the internal flange of the crown, for the purpose fully described hereinafter.

In the accompanying drawings, Figure 1 is a side view, partly in section, illustrating my
20 improved automatic gas-lighter in connection with a Welsbach burner. Fig. 2 is a detached perspective view of the shade-holder and screen with the automatic apparatus attached, and Fig. 3 is a sectional view of the crown.

25 A is the hollow stem of the gas-burner, communicating with the pipe A' and having an enlarged portion *a*, provided with valved openings, so that the gas will be combined with a certain proportion of air in its passage to the
30 crown.

B is the shade-holder adapted to support the shade or chimney C and the crown B'. The crown in the present instance is made in two sections *b b'*, one insulated from the other
35 by a ring *c* of non-conducting material. An internal flange *b²* extends around the portion *b'* of the crown, and situated some distance below this flange is a screen *e*. This screen is arranged at such a distance below the flange
40 that a channel *e'* is formed between the screen and the flange, in which the gas that escapes may circulate.

D is a magnet secured to the shade-holder in any suitable manner, and pivoted to the
45 frame of the magnet at *d'* is an armature *d*, and extending from the armature is a rod *d²*, having a bent-over portion *d³*, forming the movable terminal. This rod passes through a guideway *f*, screwed into the portion *b* of
50 the crown and also into the base of the frame of the magnet, and acts as a means of securing the magnet to the shade-holder. The ar-

mature *d* is secured to the rod *d²* through a sleeve *f'*, which is fixed to the rod and is flattened on each side, so that it will fit in a slot
55 in the armature, thus preventing the turning of the terminal *d³* at the end of the rod. Between the sleeve *f'* and the slideway *f* is a spring *f²*, which tends to push the armature away from the magnet and to hold the ter-
60 minal down upon the flange *b²* of the portion *b'* of the crown, which is the fixed terminal, insulated from the body of the shade-holder by the insulating material *c*.

The wires may extend from the terminal
65 and from the magnet or shade-holder, and may be fastened to line-wires leading to a suitable button or any other form of cut-out.

It will be seen that the sparking apparatus is within the mantle *i*, the rod *d²* is insulated
70 from the screen in the present instance by an eye of porcelain or other non-conducting material carried by the screen, and that the entire device is compact and can be readily at-
75 tached to any burner by simply removing the ordinary shade-holder and substituting the shade-holder having the magnet and other electrical connections.

In some instances I may provide binding-
screws *h h* at one side of the shade-holder, to
80 which suitable terminals may be connected; or the binding-posts may be arranged on the inside of the shade-holder, or the wires may extend from the magnet and from the fixed terminal, so that the battery-wires may be
85 readily connected to them.

By utilizing the turned-in flange of the portion *b'* of the crown as one terminal and by lowering the screen within the crown, so as to form an annular channel *e'*, I am enabled to
90 insure the proper lighting of the burner as soon as the spark is made, as the gas as it escapes from the tube to the screen circulates first within the channel, so that as soon as the spark is made there is sufficient gas in the
95 channel to ignite at once.

I claim as my invention—

1. The combination in an electric gas lighter, of the shade holder carrying a crown, the outer portion of the crown being insulated from the
100 inner portion and forming one terminal of the lighter, a magnet carried by the shade holder, an armature and a movable terminal carried by the armature and adapted to come

into contact with the portion of the crown forming the other terminal, substantially as described.

2. The combination in an electric gas lighter, of the fixed portion of the gas burner, the detachable shade holder, a two part crown carried thereby, one part of the crown being insulated from the other and having a turned in flange forming a terminal, a magnet supported by the shade holder, a pivoted armature, the vertical rod passing up through the crown and overhanging its flange, said rod being attached to the armature and a spring for holding the movable terminal down upon the fixed terminal, substantially as described.

3. The combination of the burner, a screen, a channeled flange above the screen in which the gas circulates, electric contacts at the channel and means for creating a spark at the contacts, substantially as described.

4. The combination of a burner of the Welsbach type consisting of a central tube for the

mixture of air and gas, a crown having an internal flange around its periphery, a screen mounted within the crown some distance below the flange forming a gas channel, the crown forming one terminal of an electric gas lighter, a movable terminal adapted to come into contact with the fixed terminal and means for actuating the movable terminal, substantially as described.

5. The combination in a burner, of the crown having an internal flange at its periphery and an internal rib some distance below the flange, a screen mounted within the crown upon the rib forming with the flange a gas channel, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HARRY G. GRIER.

Witnesses:

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JOS. H. KLEIN.