

H. D. GRINNELL.
ELECTRIC GAS LIGHTER.
APPLICATION FILED DEC. 7, 1910.

1,014,461.

Patented Jan. 9, 1912.

Fig. 1,

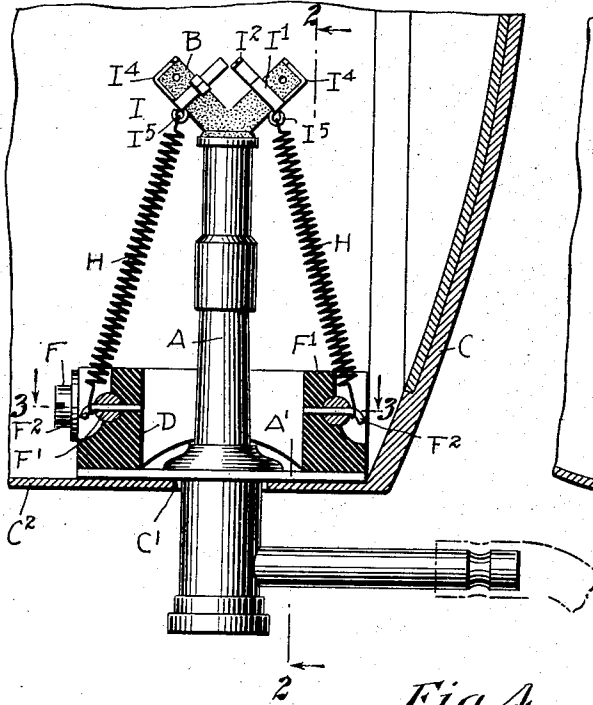


Fig. 2,

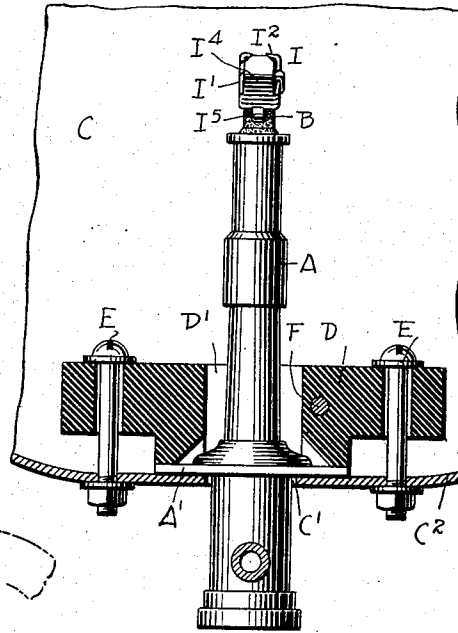


Fig. 4,

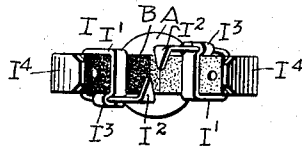


Fig. 3,

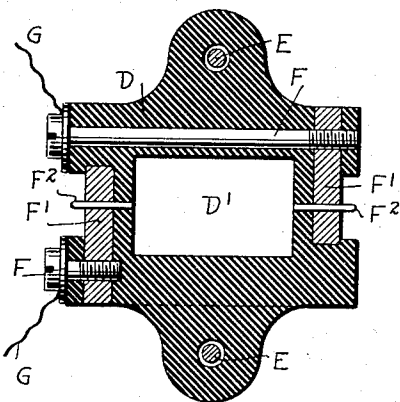


Fig. 5,

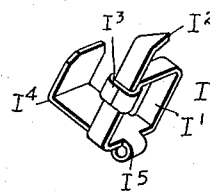
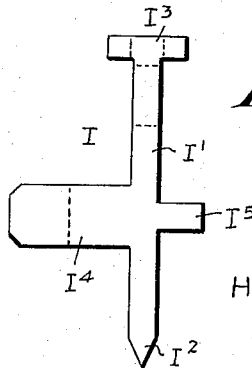


Fig. 6.



WITNESSES

Edward Thorpe.
Reo. J. Horton.

INVENTOR
Harold D. Grinnell.

BY *Munn & Co.*
ATTORNEYS

UNITED STATES PATENT OFFICE.

HAROLD D. GRINNELL, OF PITTSFIELD, MASSACHUSETTS.

ELECTRIC GAS-LIGHTER.

1,014,461.

Specification of Letters Patent.

Patented Jan. 9, 1912.

Application filed December 7, 1910. Serial No. 596,048.

To all whom it may concern:

Be it known that I, HAROLD D. GRINNELL, a citizen of the United States, and a resident of Pittsfield, in the county of Berkshire and State of Massachusetts, have invented a new and Improved Electric Gas-Lighter, of which the following is a full, clear, and exact description.

The invention relates to electric gas lighters, such as shown and described in the application for Letters Patent of the United States, No. 571,910, filed by me on July 14, 1910.

The object of the present invention is to provide a new and improved electric gas lighter, more especially designed for high tension currents, and arranged to permit of convenient removal of the spark points, for replacing a burner tip by a new one, for cleaning the burner or for other purposes.

For the purpose mentioned, use is made of coiled springs connecting the spark points with binding posts connected with a source of electrical energy.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a sectional side elevation of the improvement as applied to an acetylene gas burner; Fig. 2 is a cross section of the same on the line 2—2 of Fig. 1; Fig. 3 is a sectional plan view of the same on the line 3—3 of Fig. 1; Fig. 4 is a plan view of the burner and the spark points held thereon; Fig. 5 is a perspective view of one of the spark points; and Fig. 6 is a plan view of the blank for forming a spark point.

The gas pipe A carrying the acetylene gas or other gas burner tip B extends through an opening C' formed in the bottom C² of the lamp casing C, and the said gas pipe A is provided with a flange A' resting on the upper surface of the bottom C². On top of the flange A' is seated a base D of a suitable insulating material, and the said base is fastened in position by bolts E engaging the bottom C² of the lamp casing C, as plainly indicated in Fig. 2. The base D is provided with a central opening D' through which extends the gas pipe A. Binding posts F are held on the base D and are connected by wires G with a source of electrical energy, and the said binding posts F are provided with transversely extending

arms F' supporting hooks F² engaged by the lower ends of coiled springs H, hooked at their upper ends onto spark points I attached to the burner tip B. Each of the spark points I is preferably made from a single strip I' of sheet metal (meteor metal or the like), and the said strip I' terminates at one end in a point I² and at the other end in lugs I³ so that when the strip I' is bent around the burner tip B, as indicated in Figs. 1, 2 and 4, then the lugs I³ are bent around the strip I' a distance from the point I² so as to securely hold the strip I' in place on the burner tip. An L-shaped retaining arm I⁴ extends integrally from one side of the strip I' to engage the under side and top of the burner tip with a view to hold the spark points in such relative position that the points I² of the two spark points are in close proximity one to the other to permit the spark to pass from one point to the other with a view to ignite the gas emanating from the burner tip B. By reference to Fig. 1 it will be noticed that the spark points I are arranged at a right angle one to the other, and in such relation to the tip that the spark points are below the flame and hence are not unduly influenced by the heat of the flame. The strip I' is also provided with an internal hook I⁵ extending from the side of the strip I' directly opposite the arm I⁴, and the said hook I⁵ is engaged by the upper end of the corresponding spring H, so that the spring H establishes an electrical connection between the binding post F and the corresponding spark point I.

It will be noticed that by the arrangement described, the spring H can be readily disconnected from the hook I⁵ to permit of slipping off the corresponding spark point I for removal of the same if necessary; or, if desired, the point I may be removed from the burner tip B by an upward pull, the top of the spring H permitting sufficient movement of the point I for its removal without disconnecting it from the spring H.

When it is desired to place a new tip B in position on the gas pipe A, then both springs H are unhooked from the hooks I⁵ and the spark points I are then slipped off the burner tip, after which the latter can be replaced by a new one and the spark points I replaced thereon, for connection with the spring H, to complete the device.

Having thus described my invention, I

claim as new and desire to secure by Letters Patent:

1. An electric gas lighter having a spark terminal formed of a strip of sheet metal bent to encircle the burner tip and terminating at one end in a point and at the other end in retaining lugs engaging the strip at a distance from the said terminal, and an L-shaped arm extending integrally from one side of the strip for engagement with one side and the end of the burner tip.

2. An electric gas lighter, having a spark terminal formed of a strip of sheet metal bent to encircle the burner tip and terminating at one end in a point and at the other end in retaining lugs engaging the strip at a distance from the said terminal, an L-shaped arm extending integrally from one side of the strip for engagement with the end of the burner tip, and a hook formed integrally on one side of the said strip opposite the said arm.

3. An electric gas lighter, comprising a base of insulating material, and having an opening, binding posts held in the said base and provided with hooks, a gas burner having a tip and extending through the open-

ing in the base, spark points removably secured to the said tip and having hooks and coiled springs for removable attachment to the said hooks.

4. An electric gas lighter, comprising a burner tip provided with oppositely disposed portions, a plurality of spark terminals, each mounted upon one of said oppositely disposed portions, resilient members of conducting material connected with said spark terminals for holding the same upon said oppositely disposed portions, said resilient members of conducting material having elasticity sufficient to enable said spark terminals to be disconnected from said oppositely disposed portions, and electrical connections for establishing electrical communication through said resilient members to said terminals.

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

HAROLD D. GRINNELL.

Witnesses:

MILTON B. WARNER,
MARY K. MURPHY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."