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PATENT



SPECIFICATION

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Complete Accepted, Feb. 26, 1920.

COMPLETE SPECIFICATION.

Improvements in Electric Lighters.

I, BENOIT LOUIS DECHELLE, a citizen of the French Republic, of 3 rue de Marseille, Lyons, France, Manufacturer, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

The invention relates to electric igniters of the type wherein a spirit torch is ignited by means of sparks due to the so-called "extra" current in an interrupted inductive electric circuit when the said circuit is temporarily closed and then broken again by wiping the torch across contiguous contacts.

The invention consists, firstly, in using for the said contact device, as regards one pole a series of contact elements spaced somewhat apart, and as regards the other pole a continuous contact extending alongside of said series but with a gap between them, so that a torch rubbed or wiped along the series of contact elements and the continuous contact, bridging the gap, will alternately make and break the circuit, resulting in a series of sparks which ensure ignition of the torch. The invention also includes an improved container for the spirit and the torch.

The invention is illustrated in the annexed drawing, in which:—

Fig. 1 is a front view of the apparatus.

Fig. 2 is a similar view, with a portion of the casing broken away and partly in section.

Fig. 3 is a side view, partly in section on the line 1—1 of Fig. 2,

Fig. 4 a plan view in section on the line 2—2 of Fig. 2,

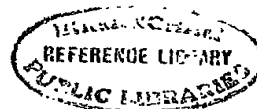
Fig. 5 a section of the coil, and

Fig. 6 a diagram of the circuit.

The apparatus comprises a metal casing *a*, from which project, at the bottom, two terminals *b*<sup>1</sup>, *b*<sup>2</sup> fixed to an insulating plate *b* inside the case. Hooked to the side of the casing *a* is a container *c*<sup>1</sup> enclosing a reservoir *c*, which contains spirit *c*<sup>2</sup> and is supported upon a layer *g*<sup>1</sup> of cotton wool or other absorbent material in the container. A loosely fitting screw *h* in the floor of the reservoir allows spirit to trickle out and saturate the cotton wool. The dished cover *c*<sup>3</sup> of the container *c*<sup>1</sup> is dished and has a hole for the insertion of a torch *f*, containing a wick *g* which protrudes from its lower end. The torch *f* has a collar *f*<sup>1</sup> making an air-tight joint on the dished cover *c*<sup>3</sup> and the torch passes in the container through a wide tube *c*<sup>4</sup> in the body of the reservoir *c*, so that the wick *g* can absorb spirit from the cotton wool. The torch *f* can be withdrawn from the container *c*<sup>1</sup> for use.

The front of the casing has an aperture, into which fits an insulating block *i*

[Price 6d.]



having a flange seated against the wall of the casing inside the same, the block being held in position by a spring *j*. The block *i* has a vertical channel, open in front, containing a wide metal tube *e* having horizontal slots cut therein, so that the front of the tube wall forms a series of curved parallel bars, or what may be called a grid, as best shown in Fig. 2. To the front of the block is screwed a metal plate *k* having an aperture *a*<sup>1</sup> exposing the said grid, the rim of the aperture being close to the grid but not touching it.

Inside the casing there is an inductance coil *d* formed of naked wire wound upon a bundle of soft iron rods *d*<sup>1</sup>, the turns of the wire being spaced apart, and the several layers of wire being separated from each other by a sheet of asbestos, as shown in Fig. 5. One end of the coil is connected to the terminal *b*<sup>2</sup>, and the other is connected to the plate *k*. The terminal *b*<sup>1</sup> is connected by a wire to the tube *e*.

By means of a plug or the like the terminals *b*<sup>1</sup> and *b*<sup>2</sup> are connected to any convenient electric circuit, say an ordinary supply circuit with a pressure of 110 to 130 volts. Except when the apparatus is actually in use, the circuit within it is open, owing to the gap between the grid and the plate *k*. If, however, the wick *g* at the end of the torch *f* is rubbed lightly along the grid and the rim of the plate *k*, it will close the circuit each time it touches one of the grid-bars. The make-and-break resulting from rubbing the wick along the grid will, therefore, produce sparks by which the spirit in the wick is ignited.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. An electric igniter of the type defined, the contact and sparking device comprising, as regards one pole, a series of contact elements spaced somewhat apart, and as regards the other pole, a continuous contact extending alongside of said series with a gap between it and the series capable of being bridged by the torch.
2. An electric igniter as claimed in Claim 1, the interrupted contact consisting of a tubular member having a series of transverse slots therein, leaving bars between said slots constituting the series of contact elements.
3. An electric igniter as claimed in Claim 1, with a container for the spirit and torch comprising an outer receptacle having a cover and a hole in said cover, and a spirit reservoir in said receptacle resting upon a layer of absorbent material in said receptacle and having a vertical tube passing therethrough enabling the torch to pass downwards from the hole in the cover to the absorbent material, said reservoir having an orifice allowing spirit to trickle into the absorbent material.

Dated this 19th day of December, 1919.

For the Applicant,

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Chartered Patent Agents,  
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FIG. 1

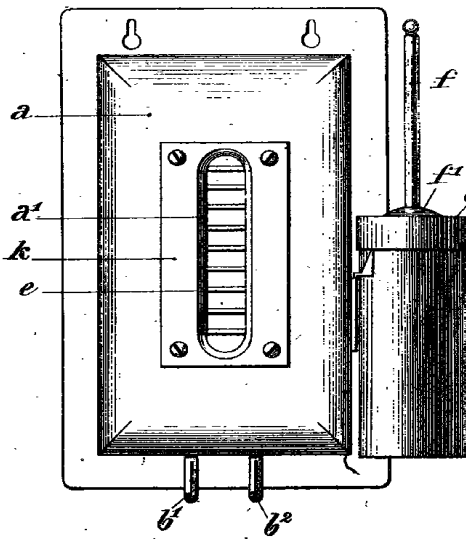


FIG. 2

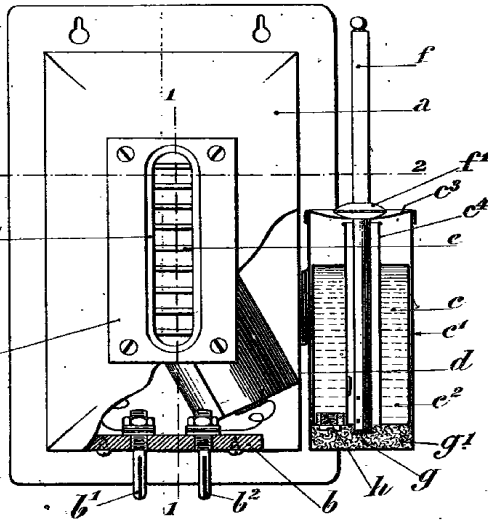


FIG. 3

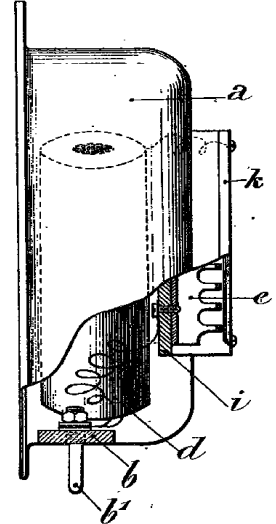


FIG. 5

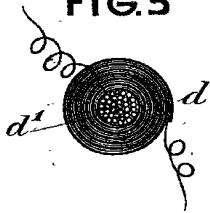


FIG. 4

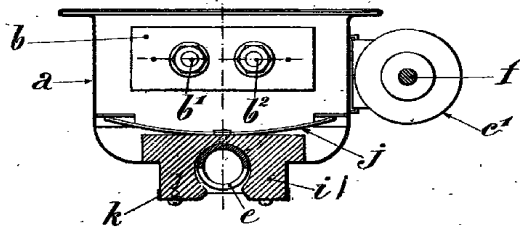


FIG. 6

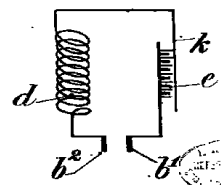


FIG. 1

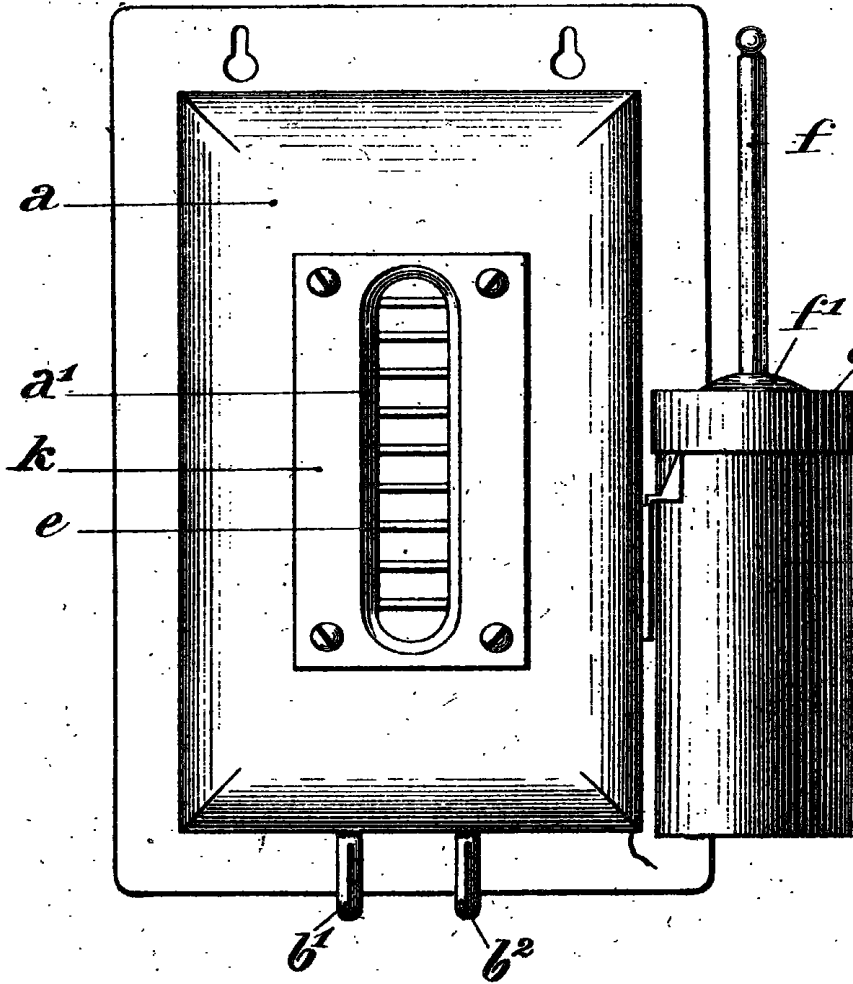


FIG. 2

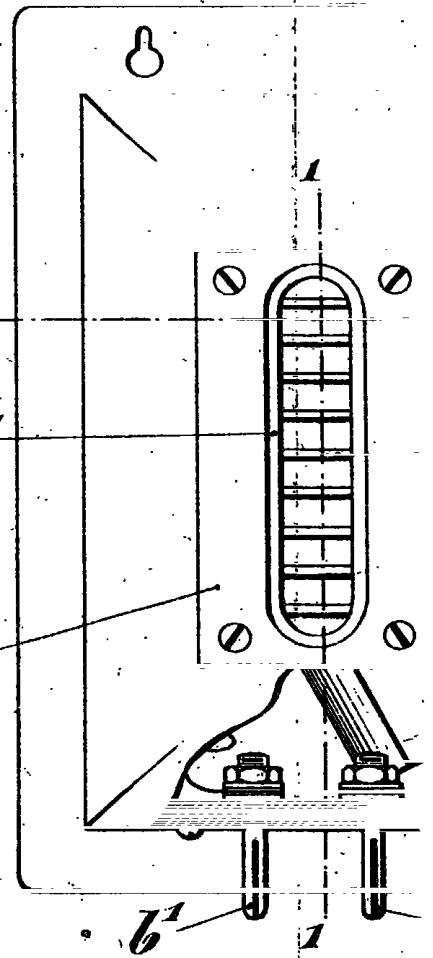


FIG. 3

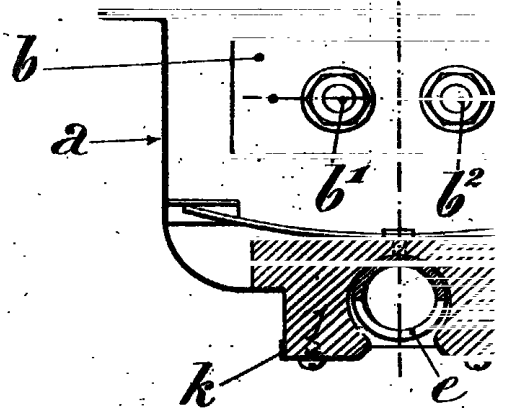
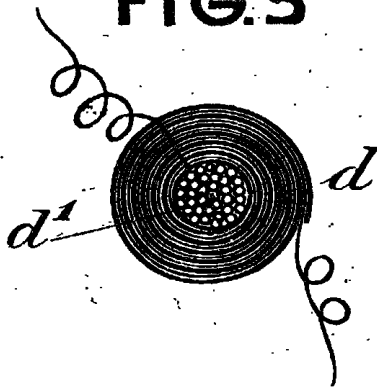


FIG. 5



This drawing is a reproduction of the original on a reduced scale.

FIG.3

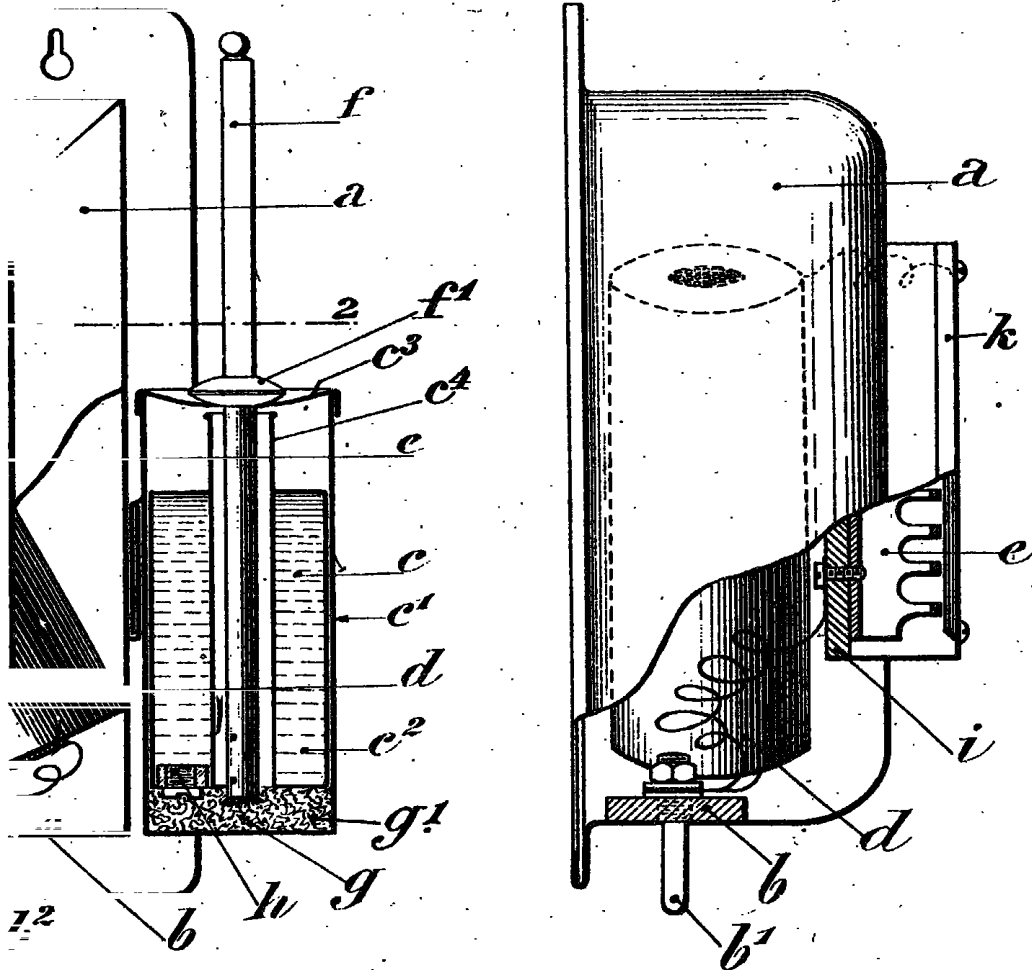


FIG.6

