

No. 681,739.

Patented Sept. 3, 1901.

F. A. RUFF.
ELECTRIC IGNITER.

(Application filed Dec. 3, 1900.)

(No Model.)

Fig. 1.

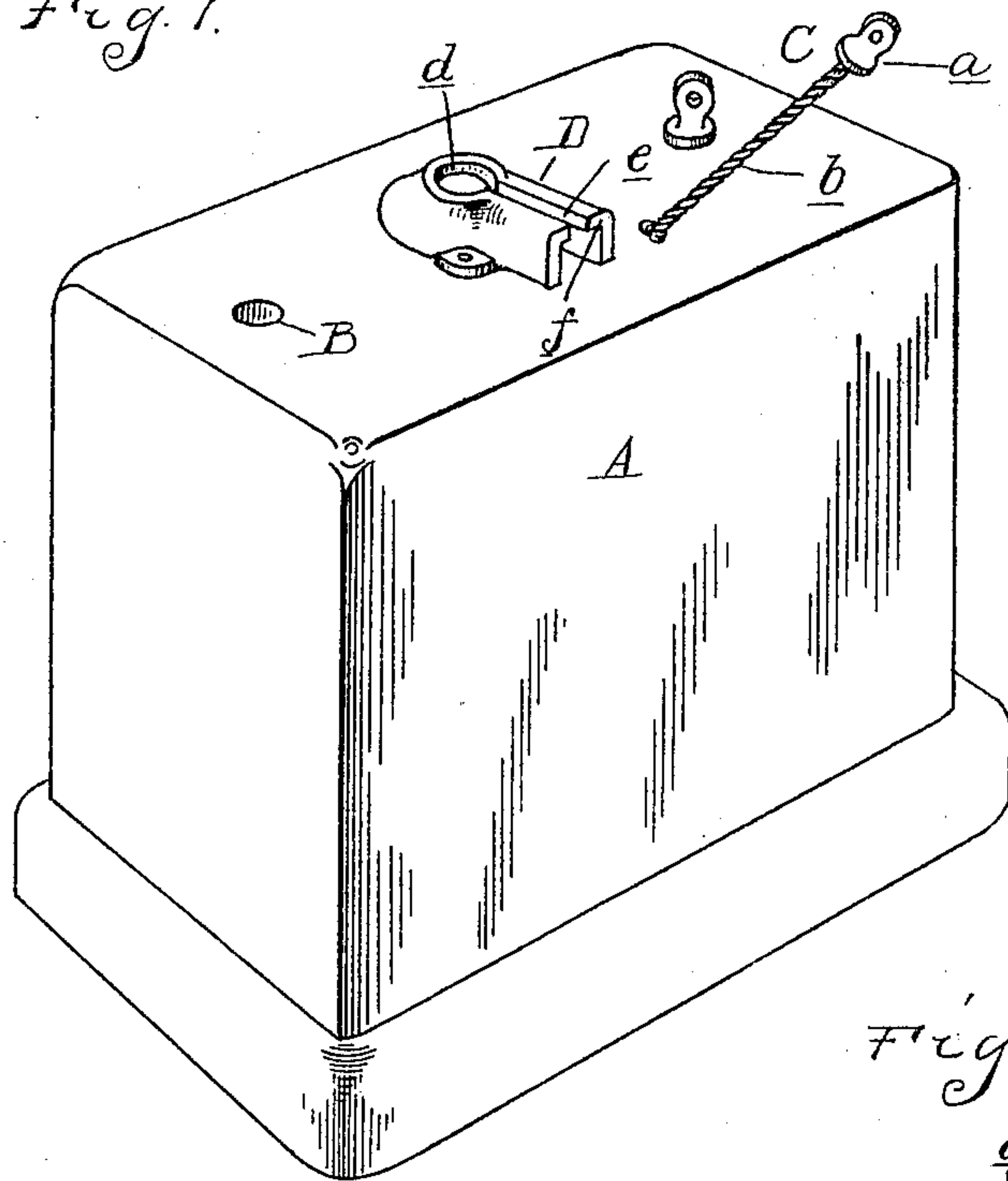


Fig. 2.

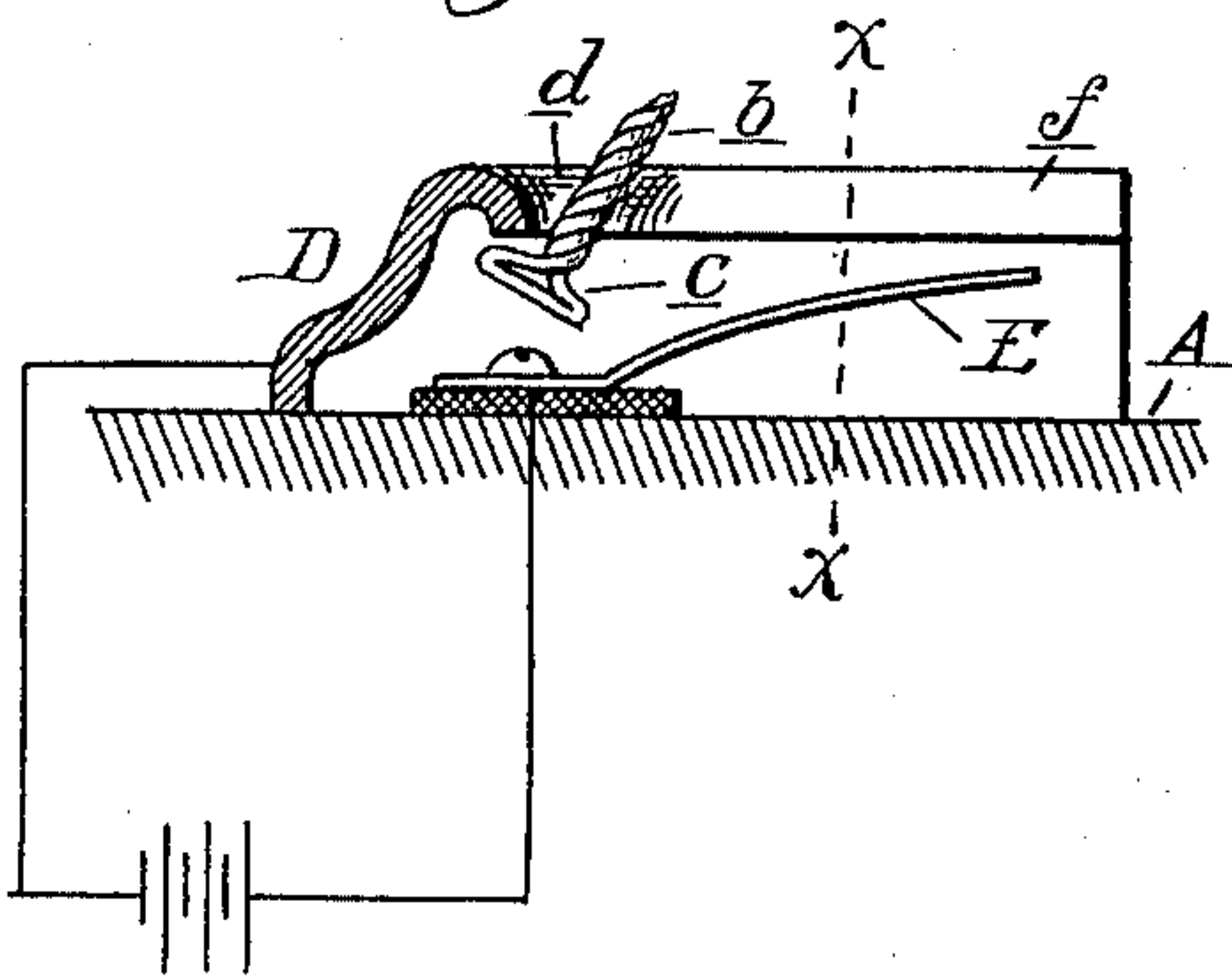
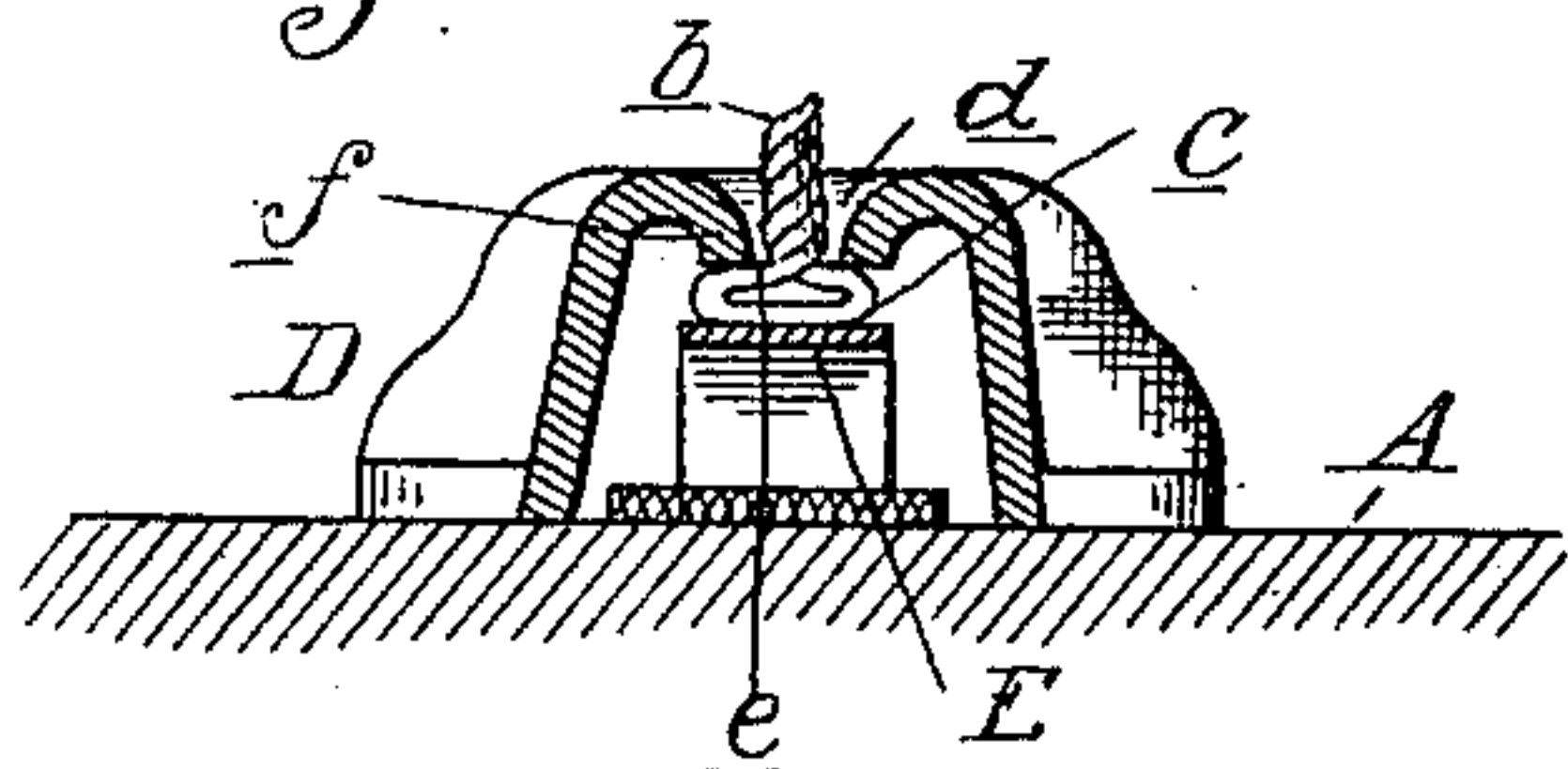


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

FREDERICK A. RUFF, OF DETROIT, MICHIGAN.

ELECTRIC IGNITER.

SPECIFICATION forming part of Letters Patent No. 681,739, dated September 3, 1901.

Application filed December 3, 1900. Serial No. 38,514. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK A. RUFF, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Electric Igniters, of which the following is a specification, reference being had therein to the accompanying drawings.

10 The invention relates to electric igniters, and more particularly to cigar-lighters.

The invention consists in the peculiar construction of the torch employed, together with the construction and arrangement of the electrodes whereby a circuit is closed through said torch and upon the withdrawal thereof a spark is produced.

20 The invention further consists in the construction of torch whereby that portion carrying the inflammable substance is also used for completing the electric circuit, and, further, in the peculiar construction of the electrodes, as more fully hereinafter described and claimed.

25 In the drawings, Figure 1 is a perspective view of an igniter. Fig. 2 is a section through the electrodes. Fig. 3 is a section on line *xx*, Fig. 2.

30 A is a casing preferably constructed to contain the electric generator. The latter may be of any desired form, such as a battery and sparking-coil; but as it forms no part of the present invention it is not illustrated in the drawings. In the top of the casing is preferably formed one or more wells B, adapted to contain alcohol or other inflammable fluid.

35 C is a torch normally inserted in the well B and provided with a cap *a* for closing the latter. This torch may be of any suitable construction and is shown as comprising a twisted wire *b*, having an enlarged head *c* at its end. At a suitable point on the casing, such as the center of the top, are arranged the electrodes with which the generator is connected. These electrodes are normally separated from each other and are adapted to be electrically connected by the head *c* of the torch when the latter is inserted therebetween. As shown, one electrode D is in the form of a hollow casing secured to the top of the casing A. The top of this electrode is apertured at *d* for the insertion of the head *c* of the torch, and connecting with the aper-

ture *d* is a slot *e*, the opposite sides of which are formed by the flanges *f*. Within the hollow casing is arranged a second electrode E, which is in the form of a flat spring-bar secured at one end to the casing A and insulated therefrom and from the electrode D. The free end of the electrode E projects upward and outward into proximity to the flanges *f*, but out of contact therewith. With the device as thus constructed when it is desired to light the torch it is withdrawn from the well B and head *c* is inserted in the aperture *d*. The torch is then drawn outward, causing said head *c* to be drawn between the electrode E and the flanges *f*, forming the electric connection therebetween. As soon as the head *c* is drawn past the end of the spring E the latter will quickly separate therefrom and cause the electric spark. Inasmuch as the head *c* is wet with the inflammable fluid the spark will cause the ignition of said fluid. Upon replacing the torch in the well B the flame will be extinguished by the cap *a*, and the latter also serves to prevent the waste of the fluid by evaporation.

What I claim as my invention is—

1. In an electric igniter, the combination with an apertured hollow casing forming one electrode, of a spring within said casing and electrically insulated therefrom, said spring forming the other electrode, and a torch having the portion carrying the inflammable substance adapted to be inserted in said aperture to form an electric connection between said electrodes, whereby upon withdrawal a spark is produced and the torch ignited.

2. In an electric igniter the combination of two separated electrodes arranged to form opposite walls of a tapering channel having an enlarged entering aperture, one of said walls being yielding, and a torch having a portion thereof carrying the inflammable substance forming an electric bridge adapted to be inserted in the larger end of said channel, and drawn out therefrom at the smaller end, for the purpose described.

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

FREDERICK A. RUFF.

Witnesses:

M. B. O'DOHERTY,
H. C. SMITH.