

No. 785,809.

PATENTED MAR. 28, 1905.

L. D. KINZIG & G. C. RIBER.
SPARKING IGNITER FOR EXPLOSIVE ENGINES.

APPLICATION FILED FEB. 23, 1904.

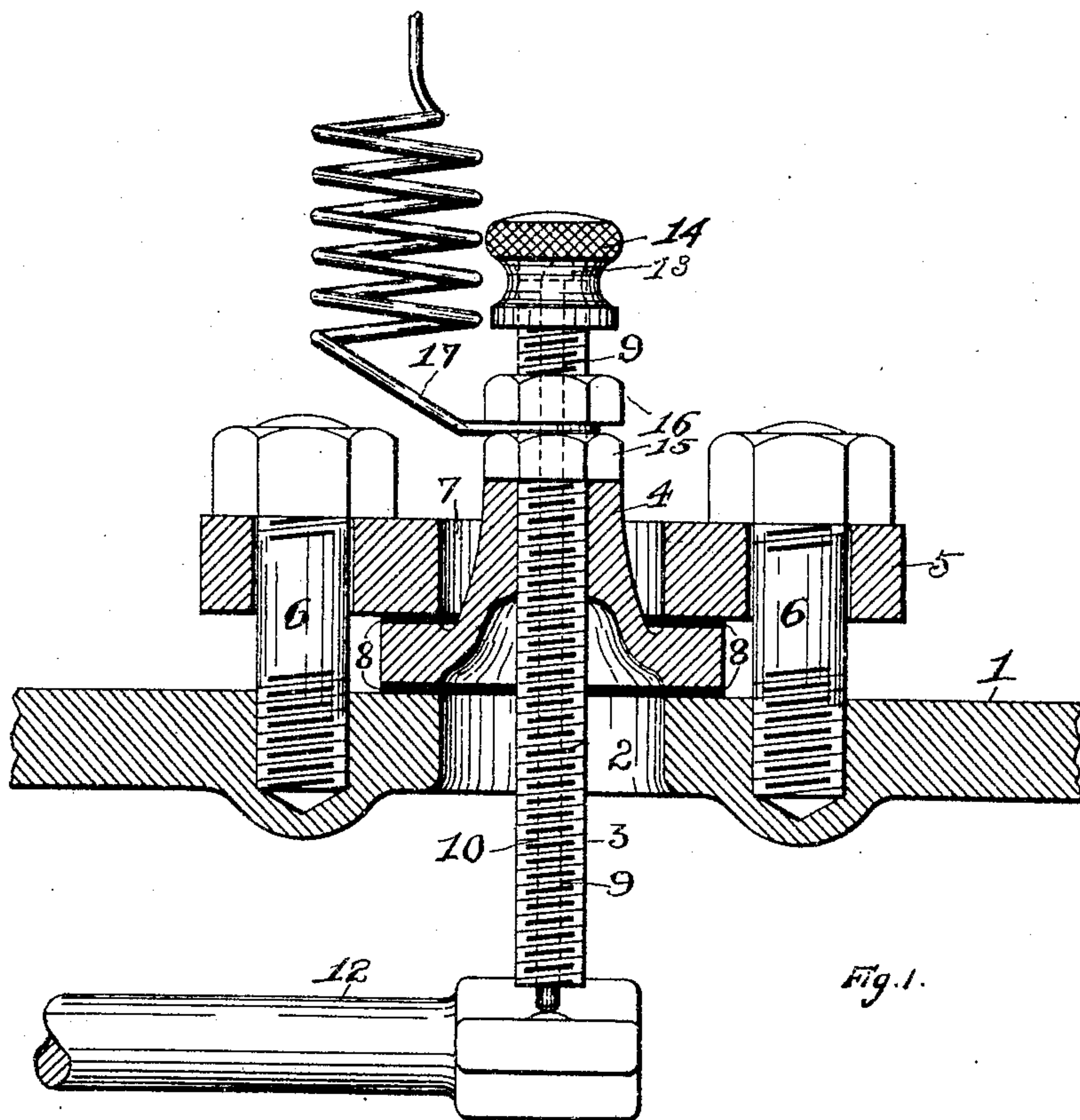


Fig. 1.

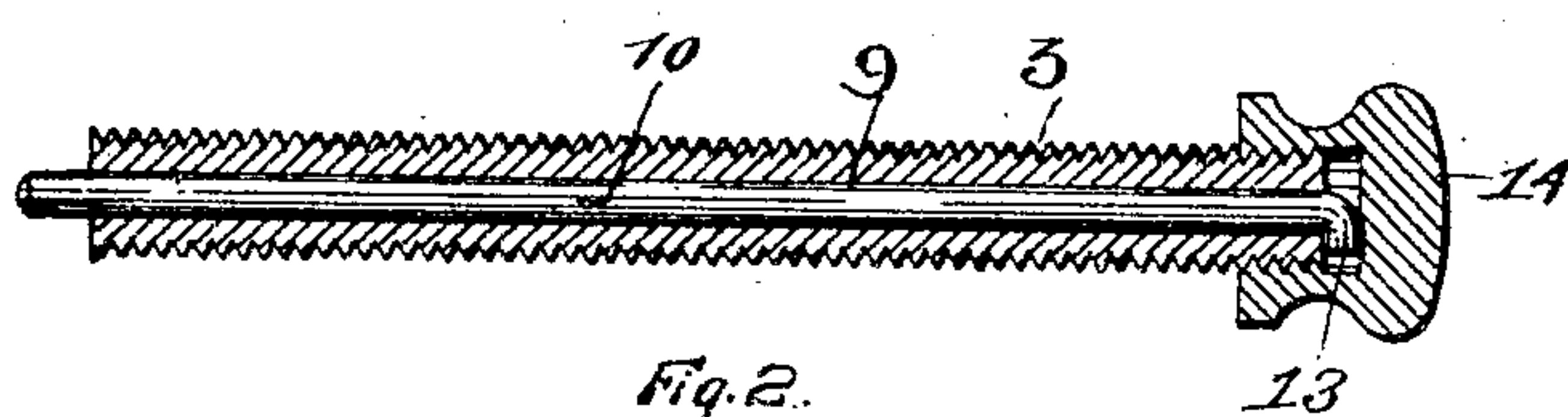


Fig. 2.

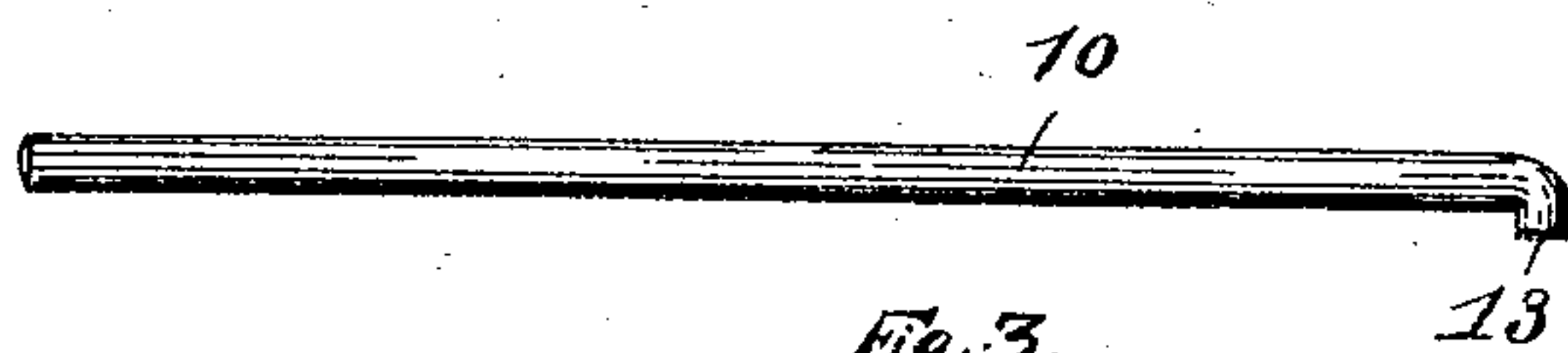


Fig. 3.

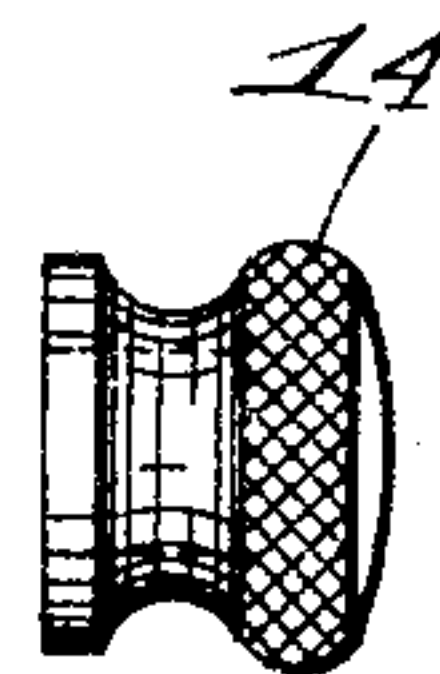


Fig. 4.

WITNESSES

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SPARKING IGNITER FOR EXPLOSIVE-ENGINES.

SPECIFICATION forming part of Letters Patent No. 785,809, dated March 28, 1905.

Application filed February 23, 1904. Serial No. 194,685.

To all whom it may concern:

Be it known that we, LOUIS D. KINZIG and GEORGE C. RIBER, citizens of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Sparking Igniters for Explosive-Engines; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in sparking devices for explosive-engines.

The object of the invention is to do away with the necessity of detaching parts of the igniter when it becomes necessary to replace the electrodes. It is now a common practice in replacing the electrodes to dismantle the igniter or the part of the igniter that holds the electrodes. This annoying and difficult practice is entirely obviated by the present means, which enable a removal of the electrode subjected to the greatest wear without dismantling the igniter or stopping the engine, as will hereinafter be more fully described in connection with the accompanying drawings, of which—

Figure 1 is a sectional view of a portion of the wall of the explosive-chamber, showing the electrodes in position. Fig. 2 is a detached sectional view of the stationary electrode, the electrode-tube, and screw-cap. Fig. 3 is a view of the electrode removed from the tube. Fig. 4 is a view of the screw-cap removed from the tube.

In a detail description of the invention similar reference characters indicate corresponding parts.

1 designates a portion of the wall of the combustion-chamber of an explosive-engine, the same having an opening 2, through which the stationary insulated electrode-tube 3 is projected, the said tube being in the form of a screw with a bore extending through it from end to end.

4 is a bridge or support for said tube 3, and

which is mounted over said opening 2 and clamped above by means of a ring 5 and bolts 6. The said ring has a similar opening 7, which is occupied by the bridge or support 4. The support 4 is insulated from the wall 1 and the clamp 5 by insulation-rings 8.

Referring now more specifically to the features embodied in the present invention, the electrode-tube 3 is provided, as before stated, with a bore 9, extending therein from end to end, and is also provided with exterior screw-threads, by means of which it is screwed into the bridge or support 4. It is not necessary, however, to have the entire body of said tube provided with threads, as there are several ways in which said tube may be placed in its support 4.

10 designates an electrode in the form of a solid metallic rod, which is loosely confined within the electrode-tube 3, with the contact end thereof projected a suitable distance beyond the inner end of said tube to make contact with the movable electrode 12, the latter being of the usual construction and operation. The upper end of the removable electrode 10 is slightly turned or is provided with an enlargement 13, which prevents it from falling through the tube 3 and also holds it rigidly and assures perfect contact.

14 designates a screw-cap which engages the outer end of the electrode-tube 3 and is removable therefrom to permit of the electrode 10 being replaced whenever such becomes necessary. It will therefore be seen that the stationary electrode or that electrode which is subjected to the greatest amount of wear may be replaced at will without stopping the engine by simply removing the screw-cap 14 and inserting a new electrode in the tube 3. It will be understood that the electrode 10 is the stationary electrode in the present case; but the tube 3 can be employed in some cases on the movable electrode with equal facility.

15 designates a lock-nut which secures the electrode-tube 3 in position and between which and a jam-nut 16 the end of the wire or conductor 17 is secured, said conductor conveying either a negative or positive current to the electrode.

Having described our invention, we claim—

1. In an igniter for explosive-engines, the combination with a bridge and means for securing said bridge to the wall of a combustion-chamber, of an exteriorly-screw-thread-
5 ed electrode-tube mounted in said bridge and projected into the combustion-chamber, an electrode in the form of a rod which is loosely confined within the electrode-tube, a head on the outer end of said rod, and a screw-cap in-
10 closing the outer end of said tube and bearing upon said head to hold it against the outer extreme end of said tube.

2. In an explosive-engine sparking igniter a tubular exteriorly - screw - threaded elec-
15 trode-holder, an electrode supported therein

with its sparking end projected beyond the inner end of said tubular holder and its outer end turned on an angle to engage the upper end of said tubular holder, a screw-cap engaging the upper or exposed end of said tubu- 20
lar holder and binding the end of the electrode firmly in position, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

LOUIS D. KINZIG.
GEORGE C. RIBER.

Witnesses:

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