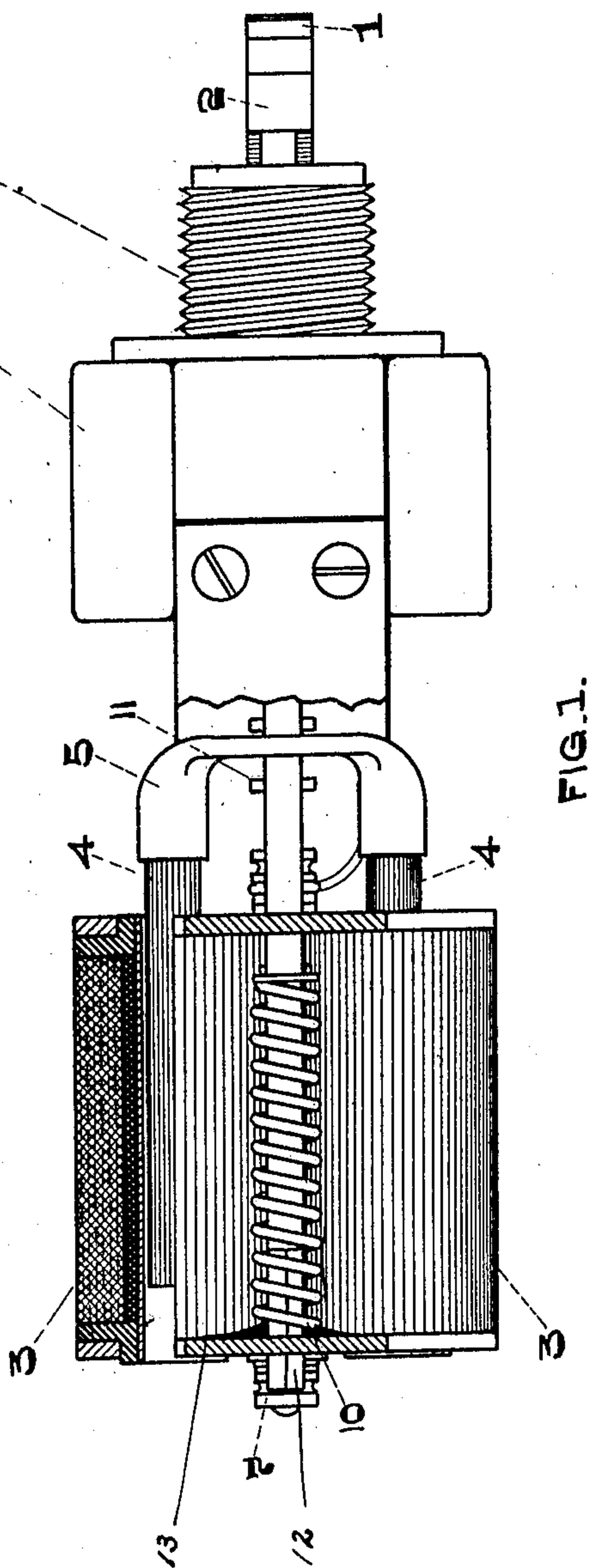
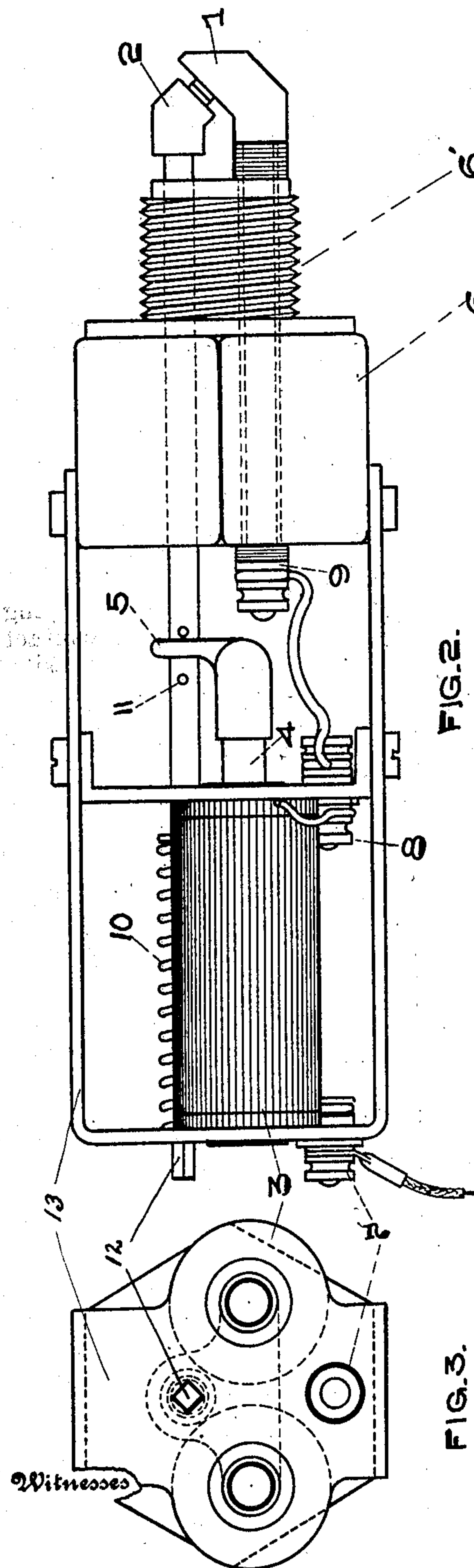


I. B. REED.
ELECTRIC IGNITER FOR GAS ENGINES.
APPLICATION FILED JULY 27, 1908.

916,595.

Patented Mar. 30, 1909.



Inventor

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UNITED STATES PATENT OFFICE.

IRA B. REED, OF OIL CITY, PENNSYLVANIA.

ELECTRIC IGNITER FOR GAS-ENGINES.

No. 916,595.

Specification of Letters Patent.

Patented March 30, 1909.

Application filed July 27, 1908. Serial No. 445,628.

To all whom it may concern:

Be it known that I, IRA B. REED, a citizen of the United States, residing at Oil City, in the county of Venango and State of Pennsylvania, have invented certain new and useful Improvements in Electric Igniters for Gas-Engines, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to improvements in electric igniters for gas engines, the construction and operation of which are herein fully set forth, reference being had to the accompanying drawings which form a part hereof and in which,

Figure 1 is a plan view, a portion being broken away to expose other portions to view. Fig. 2 is a side elevation. Fig. 3 is an end view.

Referring to the drawing the various details or elements of my device are as follows:—

1 is a stationary, insulated electrode.

2 is a reciprocating electrode.

3, 3, are solenoids.

4, 4, are plungers.

5 is a yoke connecting the plungers, and through which the reciprocating electrode 2 passes loosely.

6 is a base or body, and is provided with a suitable screw threaded plug 6 by means of which the device is secured in the cylinder of a gas engine.

7, 8, and 9, are binding posts by means of which the necessary conductors or wires are attached.

10 is a spring which maintains the contact of the electrodes when no current is flowing through the igniter.

When my device is in operation it is secured in the cylinder of a gas engine in the usual manner; the electrode being in the combustion chamber. One pole of a suitable electric generator is then attached to any portion of the gas engine, and the other pole of said generator is attached to the binding screw 7.

When no current is flowing through the igniter, the spring 10 serves to keep the electrodes in contact.

As soon as the current is permitted to flow,—by the action of any suitable circuit closer, not shown,—which, of course, in this case is an automatic device or “timer” actuated by the gas engine—the plungers are drawn into the solenoids, and as the yoke engages the

pin 11, the reciprocating electrode is drawn backward, and breaks the contact between the two electrodes, which causes an arcing of the current and a spark results. The solenoids and plungers here shown act according to the well known laws governing electro magnets and their armatures, and as long as the current flows the plungers will vibrate rapidly and thus indicate the proper action of the device. When the current is broken by the timing device aforesaid, spring 10 carries the electrode 2 forward to contact with the electrode 1.

The contact faces of the electrodes 1 and 2 are positioned at an angle to the line of travel of the reciprocating electrode, so that said electrodes meet with somewhat of a wiping action, which tends to keep their contact faces clean and free from carbon deposits, thereby maintaining their efficiency. Furthermore, said angular arrangement, by reason of producing a more gradual separation of the electrodes, causes a more extended and intense arc, hence my igniter is more certain and reliable in its action than electrodes having direct or square contact faces.

For the purpose of preventing any turning of the movable electrode, 2 and for the purpose of at all times insuring its proper alignment with the fixed electrode 1, the stem of electrode 2 is made square at 12 and passes through a square hole which is provided therefor in the frame 13, in which the solenoid 3 is mounted.

What I claim is:

In an electric igniter for gas engines, a stationary electrode, a reciprocating electrode adapted to be moved into and out of contact with said stationary electrode, a spring adapted to maintain said reciprocating electrode in said contact position, solenoids having plungers, a yoke connecting the plungers of said solenoids, said yoke being adapted to engage said reciprocating electrode and to be moved thereby when said electrode is spring-actuated, and to oppositely move said reciprocating electrode when said plungers are magnetically operated.

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

IRA B. REED.

Witnesses:

J. D. TRAX,

PEARL PROPER.