(No Model.)

E. R. MOFFITT.

ELECTRICAL IGNITER FOR GAS ENGINES.

No. 589,509. Patented Sept. 7, 1897.

Fig. 1.

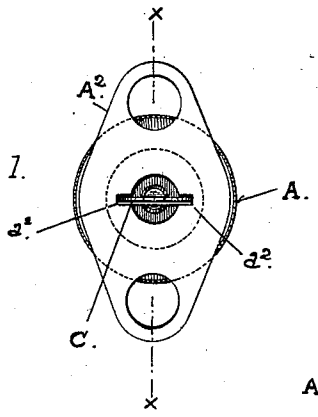


Fig. 2.

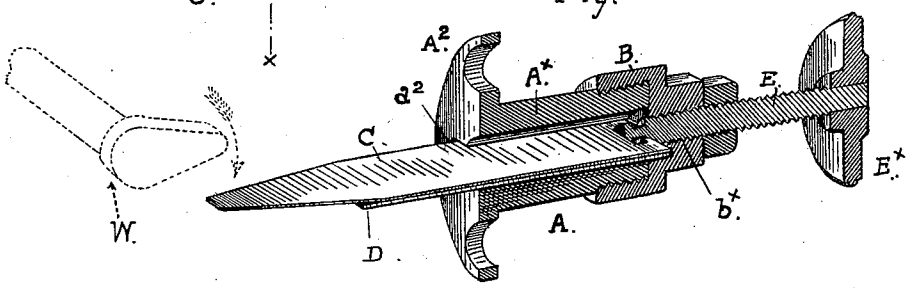


Fig. 3.

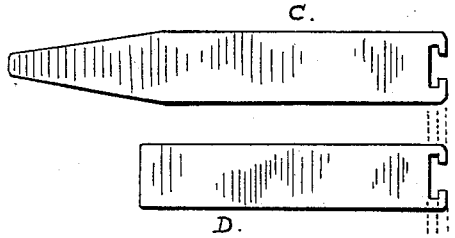


Fig. 4.

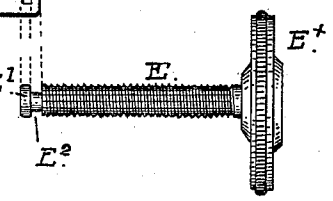
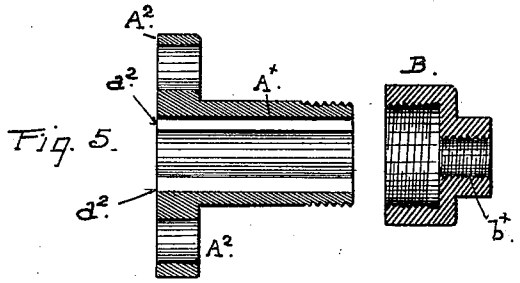


Fig. 5.



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EDWARD RICHARD MOFFITT, OF SAN FRANCISCO, CALIFORNIA.

ELECTRICAL IGNITER FOR GAS-ENGINES.

SPECIFICATION forming part of Letters Patent No. 589,509, dated September 7, 1897.

Application filed February 27, 1896. Serial No. 581,062. (No model.)

To all whom it may concern:

Be it known that I, EDWARD RICHARD MOFFITT, a citizen of the United States, residing in the city and county of San Francisco and State of California, have invented certain new and useful Improvements in Electrical Igniters for Gas-Engines, of which the following is a specification.

My invention relates to improvements made in that class of igniting devices for gas-engines which consist of a spring-tongue forming one electrode or terminal of an electric circuit and a moving electrode forming the other terminal and making contact with the spring at required intervals through the action of suitable mechanism operated from some moving parts of the engine.

The invention has for its object mainly to provide a spring that is free from the defects and objections common to most of the igniters of this class or description and to which are due their rapid loss of elasticity, their lack of durability, and uncertainty of action.

To this end this invention consists in certain novel parts and combinations of parts comprising a flat spring-electrode, a slotted casing or holder secured to the outside of the engine-cylinder over an aperture through which the spring extends into the ignition-chamber in working relation to the outer electrode, and an adjusting-screw by which the spring is adjusted from the outside, as hereinafter fully explained, and pointed out in the claims.

The drawings forming a part of this specification, and to which reference is made by letters, represent, in—

Figure 1, a front view of the casing or holder and the spring in place therein. Fig. 2 is a perspective view, in longitudinal section, through the middle of the holder and the regulating-screw. Fig. 3 is a top view of the spring and the stiffening-plate that is commonly used to increase its stiffness. Fig. 4 is a view in detail of the regulating-screw. Fig. 5 is a longitudinal view of the casing or holder.

The part A, in which the body of the spring is confined and which I have termed the "casing," is bolted to the cylinder or the ignition-chamber over an aperture through which the free end of the spring extends into the chamber. The casing is formed with a cylindrical body portion $A^{\times}$, having a circular bore or aperture through it, and ears A^2 on the front end with holes for bolts. Its rear or outer end is threaded on the circumference and is fitted with a screw-cap B.

The base of the body $A^{\times}$ is slotted diametrically to admit the spring C, and these slots a^2 a^2 are made of suitable width to take the spring without binding, as the object is to hold the spring loosely and permit a limited amount of play without confining it rigidly at any point, so that the spring is free to bend for its whole length as the outer end is pressed down each time by the outer moving electrode. These slots are cut of proper width, therefore, to admit both the spring C and the stiffening-plate D, which is set under the spring when such part D is employed.

The regulating-screw E works through a threaded socket $b^{\times}$ in the screw-cap B and is provided with a head or hand-wheel $E^{\times}$ for turning it in and out. Its inner end within the bore of the casing is loosely attached to the end of the spring C by forming a circular head E′ on the end with a circular groove E^2 behind it and fitting the same into a T-shaped slot in the end of the spring. A fastening of this character connects the spring to the screw-shaft without confining or holding it rigidly, so that there is no tendency of the spring to become weakened at the point of attachment under constant flexure, as in the case of those igniting-springs which are fixed by screws or rivets or are rigidly clamped. This attachment allows a certain freedom or loose movement or play of the spring in the holder at all times, while at the same time it is properly confined and held in place for action with the moving electrode W, Fig. 1.

By longitudinal adjustment of the spring the moment of sparking is varied as required, so that the charge is exploded earlier or later in the revolution of the crank-shaft, this being accomplished by setting the spring toward or away from the finger of the moving electrode to produce a shorter or longer contact in the usual manner, and this adjustment is effected by turning the screw E in the required direction to set the spring in or out.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the tubular casing having longitudinal slots or grooves extending through the bore on opposite sides of its axis and in the same plane, the spring-tongue fitted loosely in said grooves and projecting from the said casing into the exploding-chamber and the screw-shaft extending into the casing from the opposite end through a threaded socket and loosely attached to the end of the spring-tongue at one end and provided with a head on the other end for turning it, the said tongue being adapted for operation with a movable electrode and to form the terminal of the opposite pole of an electric circuit that includes the other electrode.

2. In an electrical igniter for gas-engines the combination of the tubular casing having longitudinal grooves on opposite sides of the bore and in the same plane, the flat spring-tongue resting loosely in said grooves and extending beyond the casing at one end thereof in working relation to a movable electrode and means connected to the said tongue at the opposite end within the casing for moving the said tongue longitudinally in the grooves and thereby adjusting the position of the projecting end with relation to the moving electrode as set forth.

EDWARD RICHARD MOFFITT.

Witnesses:

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