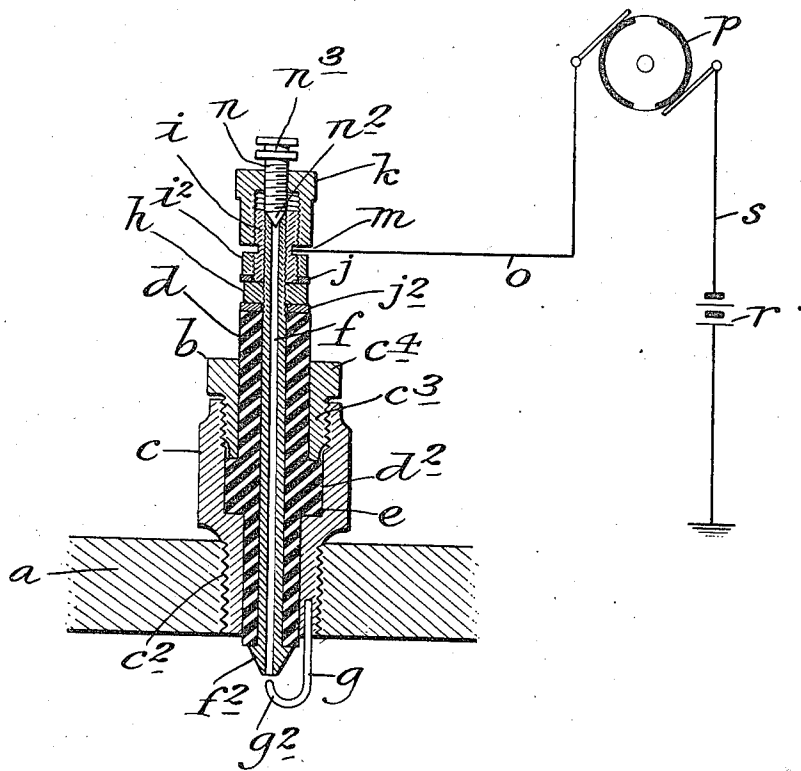


G. E. EDICK.
SPARK PLUG.
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976,158.

Patented Nov. 22, 1910.



WITNESSES:

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GEORGE E. EDICK, OF MANASQUAN, NEW JERSEY.

SPARK-PLUG.

976,158.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE E. EDICK, a citizen of the United States, and residing at Manasquan, in the county of Monmouth and State of New Jersey, have invented certain new and useful Improvements in Spark-Plugs, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use same.

This invention relates to electric sparking plugs or devices for use in connection with internal combustion engines, and the object thereof is to provide an improved device of this class, the construction of which is such that the plug can be tested in position for use, the sparking operation being visible through the plug; a further object being to provide a sparking plug of the class specified by means of which the motor may be "primed" through the plug and the sparking points cleaned without removing the plug; and with these and other objects in view, as hereinafter set out, the invention consists in a sparking plug for the purpose specified constructed as hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawing forms a part, said drawing being a sectional view of a part of a cylinder of an internal combustion engine and showing also my improved sparking device or plug in section.

In the drawing forming part of this specification I have shown at *a* a part of a cylinder of an internal combustion engine, and in the practice of my invention I provide a sparking plug *b* which is of the following construction. The plug *b* comprises a casing *c* having a tubular screw threaded member *c*² of the usual or standard dimensions and adapted to be screwed into the wall *a* of the cylinder in the usual manner and screwed into said casing is a gland *c*³ having a nut shaped head *c*⁴, these parts being similar to those of an ordinary box.

Placed in the parts *c*, *c*² and *c*³ and extending therethrough is a tubular insulating core member *d* provided approximately centrally thereof with an annular enlargement *d*² which fits in an annular chamber *e* in the part *c*² by which part and the gland member *c*³, the said insulating core *d* is securely held in place.

Passing centrally through the insulating

core *d* is a tube *f*, the inner end of which projects through the core *d* and is provided with a head *f*² which forms one part of the sparking device, and the other part of the sparking device consists of a wire or rod *g* secured in the inner end of the tubular member *c* and having a curved terminal finger *g*² which terminates in line with the bore of the tube *f*.

The parts *d* and *f* are assembled by passing the part *f* outwardly through the part *d*, and screwed on to said part *f* is a jam nut *h* and a sleeve *i*, and the sleeve *i* is also preferably provided with a jam nut *i*², and between the nut *i*² and the nut *h*, in the form of construction shown, is placed a washer *j*, and another washer *j*² is placed between the nut *h* and the insulating core *d*.

A cap *k* is screwed on to the sleeve *i*, and between said cap and said nut *i*² is an annular groove *m*, and the sleeve *i* is correspondingly grooved as clearly shown, and a screw threaded plug *n* is passed through the cap *k* and the inner end of said plug is formed into a conical valve *n*², and the outer end of the tube *f* is provided with an annular valve seat in connection with which said valve operates.

In practice a circuit wire *o* is connected with the outer end portion of the plug by wrapping it around the same in the groove *m*, or in any other desired manner, and this wire is connected, in the construction shown, with the usual timer *p*, which is also connected with a battery *r* by means of a wire *s*, and the operation will be readily understood from the foregoing description when taken in connection with the accompanying drawing and the following statement thereof. When the device is in use the current passes through the wire *o*, through the sleeve *i*, and the tube *f*, the sparker *g* and the cylinder or engine to the ground, and the operation of the timer *p* produces a spark or sparks in the usual manner and as will be readily understood.

By removing the plug *n* a wire or other suitable instrument may be passed through the tube *f* whenever desired for the purpose of cleaning the sparking members *f*² and *g*², and it will also be apparent that by removing said plug the operation of the sparking devices may be observed through said tube and the operation thereof tested. The motor may also be "primed" through said tube by removing the cap *k*, and the central bore

through the tube *f* also operates to an extent to keep the plug cool, and by starting the motor when the cap *k* is detached any collection of dust, dirt or other substances will be blown out through the tube *f*, and various other advantages will suggest themselves to those skilled in the use of this class of devices.

The connection of the circuit wire *o* with the plug at *m* may be made in any desired manner and if desired said circuit wire may be connected with the plug *n*, and for this purpose the head of said plug is provided with an annular groove *n*³ and various changes in and modifications of the construction herein described may be made, within the scope of the appended claims, without departing from the spirit of my invention or sacrificing its advantages.

It will be observed that the parts *c*² and *c*⁴ simply form a casing for the insulating core *d* and this casing is provided with the screw threaded tubular member *c* and my invention is not limited to the form or construction of the parts *c*² and *c*⁴ and the said casing may be made in any desired manner.

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

A sparking plug of the class described, said plug comprising a casing provided at one end with a reduced screw-threaded ex-

tension and the opposite end of which is enlarged and provided with an internal thread, an insulating core passing through said casing and provided with an annular enlargement, the enlarged end portion of said casing being closed by a gland screwed thereinto and which operates in connection with said enlargement to hold said core in said casing, a tube passing longitudinally and centrally through said core and the inner end of which forms one part of a pair of sparking devices, the other part of said pair of sparking devices being secured to the reduced screw-threaded extension of said casing, said tube being provided at its other end with a sleeve which is threaded thereonto, and a cap threaded onto said sleeve and inclosing said end of said tube, said end of said tube being provided with a conical valve seat, and a screw passed through said cap and provided at its inner end with a conical valve adapted to be seated on said valve seat.

In testimony that I claim the foregoing as my invention I have signed my name in presence of the subscribing witnesses this 5th day of February 1910.

GEORGE E. EDICK.

Witnesses:

B. M. RYERSON,
C. E. MULREANY.