Nov. 18, 1924. **1,516,460**

J. A. ROGERS

SPARK PLUG

Filed Oct. 14, 1922

Fig. 1.

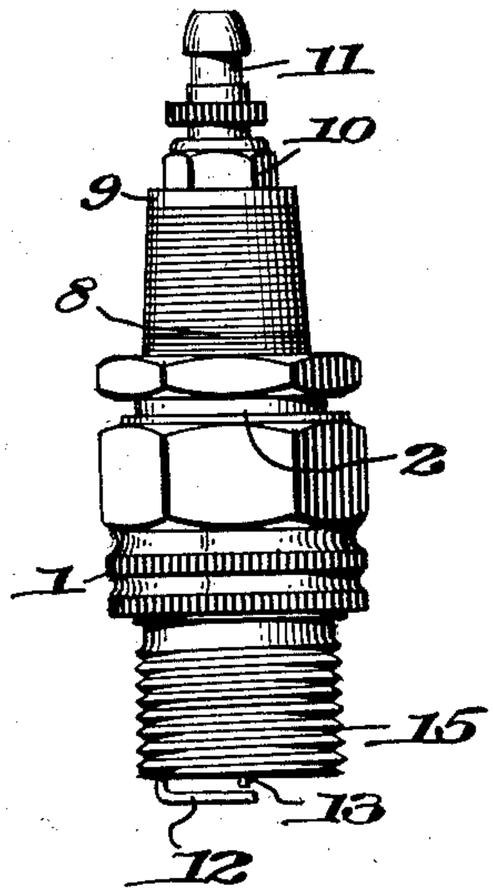


Fig. 3.

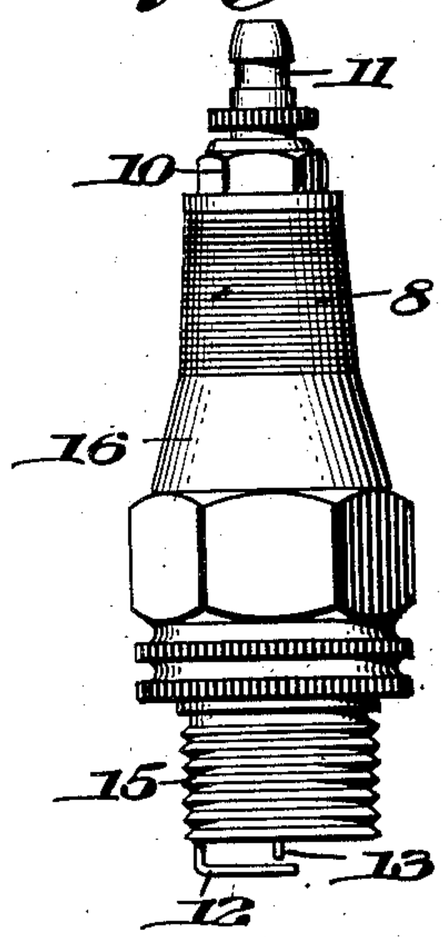


Fig. 2.

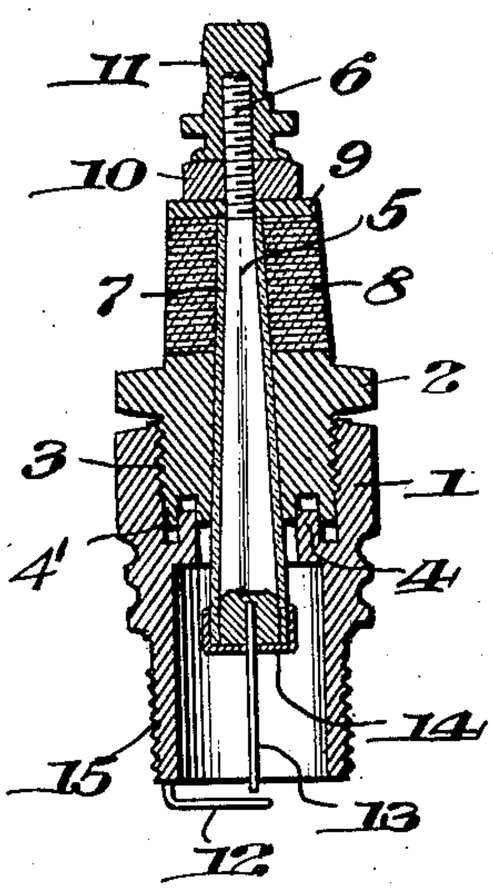


Fig. 4.

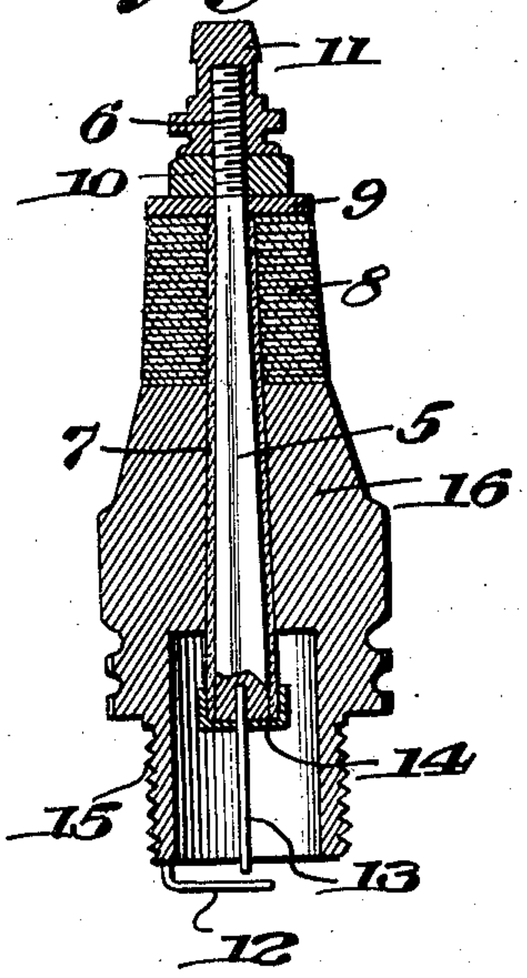
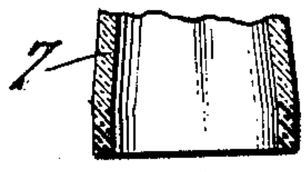


Fig. 5.



Inventor;
Joseph A. Rogers
Louis Boggs & Co
His Attys.

By

Patented Nov. 18, 1924. 1,516,460

UNITED STATES PATENT OFFICE.

JOSEPH A. ROGERS, OF RUMNEY DEPOT, NEW HAMPSHIRE.

SPARK PLUG.

Application filed October 14, 1922. Serial No. 594,444.

To all whom it may concern:

Be it known that I, JOSEPH A. ROGERS, residing at Rumney Depot, in the county of Grafton and State of New Hampshire, a citizen of the United States, have invented certain new and useful Improvements in Spark Plugs, of which the following is a specification.

My invention relates to an improvement in spark plugs.

The object is to provide a reliable and durable spark-plug composed of material that will withstand the punishment to which an article of this character is constantly subjected.

In the accompanying drawings:

Fig. 1 is a view in side elevation of one form of my invention;

Fig. 2 is a longitudinal section through the same;

Fig. 3 is a side elevation of another form of the invention;

Fig. 4 is a section therethrough, and

Fig. 5 is an enlarged detail view of one end of the mica tube.

The spark-plug shown in Figs. 1 and 2 is made in the form of a two-piece shell comprising elements 1 and 2, respectively internally and externally threaded as at 3, and screwed together, and forming a concentric tongue and groove joint 4—4′, as shown in Fig. 2.

These members 1 and 2 are counterbored through the center, and receive the metal core 5, which tapers throughout the major portion of its length, and terminates at one end in the screw-threads 6. This is insulated by means of a tube 7, preferably of mica, although it might be of other insulating material, and a series of thin mica washers 8 are interposed between the end of the section 2 of the shell and the washer 9, where they are held securely clamped in place by the nut 10 screwed on the threads 6 of the central metal core 5. A binding-post 11 screws on the outer ends of the threads 6 to hold the connector, and between it and the nut 10 the usual connector is held.

The numerals 12 and 13 represent the usual terminals, one extending from the outer end of the shell 1 laterally across to the center of the core, and the other terminal 13 out of the end of the core 5.

The metal cap 14 covers the end of the tapering mica or insulating tube 7, protecting it from detonations and mechanical injury. The usual threads 15 are provided for screwing the plug into the cylinder of the engine.

In the form illustrated in Figs. 3 and 4, the shell 16 of the plug is made in a single piece, instead of two parts screwed together. In other respects it does not differ from the constructions shown in Figs. 1 and 2.

High-temperature glass or other fusible material may be fused to the end of the mica tube to prevent the absorption of oil and the fraying of the edges of the mica tube by detonation. If found desirable, a suitable flux may be used with the glass or other fusible material to promote the fusion of the same.

As previously pointed out, the plug is simple, compactly combined, of few parts, and it is effective, efficient and durable.

The mica washers 8 may be made of waste scraps, thus greatly reducing the initial cost of the plug without in any wise lessening its value and efficiency.

I claim:

1. A spark plug including a counterbored shell, a core extending therethrough, and an insulating tube interposed between the shell and the core, said tube having a fusible material fused to one end thereof.

2. A spark plug including a counterbored shell, a core extending therethrough, an insulating tube interposed between the shell and core, glass being fused to one end of said tube and a metal cap covering the fused end of the tube and core.

3. A spark plug including a two-part shell, the parts of which are detachably secured together, one of said parts having an annular tongue around the inner surface thereof, and the other part of the shell having a groove therein concentric with the tongue and adapted to receive the same for forming a tongue and groove joint between the two parts of the shell, and a core extending through the shell.

In testimony whereof I hereunto affix my signature.

JOSEPH A. ROGERS.