Sept. 2, 1924. 1,506,823

A. J. FRANCOEUR

SPARK PLUG

Filed May 4, 1923

Fig. 1.

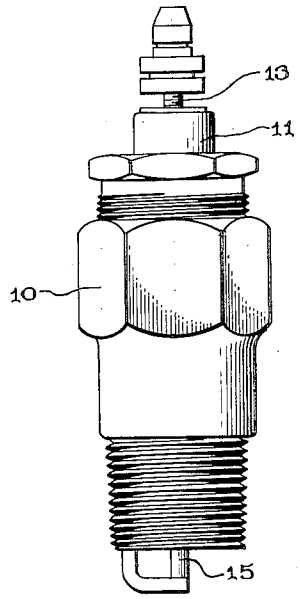


Fig. 2.

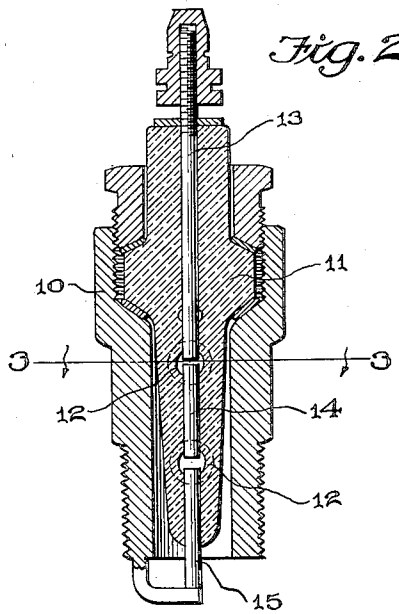
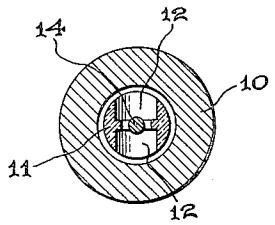


Fig. 3.



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UNITED STATES PATENT OFFICE.

ALFRED J. FRANCOEUR, OF FALL RIVER, MASSACHUSETTS.

SPARK PLUG.

Application filed May 4, 1923. Serial No. 636,723.

To all whom it may concern:

Be it known that I, ALFRED J. FRANCOEUR, a citizen of the United States, residing at Fall River, in the county of Bristol and State of Massachusetts, have invented new and useful Improvements in Spark Plugs, of which the following is a specification.

This invention contemplates the provision of a spark plug designed to be kept free from oil and carbon, by providing the insulated body with spaced openings, in each of which a cap is provided by the main electrode, thereby causing a spark in each opening which tends to heat not only the insulated body but the metallic shell of the plug and thus burn the oil as it comes in contact with these parts.

The nature and advantages of the invention will be better understood when the following detailed description is read in connection with the accompanying drawings, the invention residing in the construction, combination and arrangement of parts as claimed.

In the drawing, forming part of this application, like numerals of reference indicate similar parts in the several views, and wherein:

Figure 1 is a view in elevation of the plug constructed in accordance with the present invention.

Figure 2 is a vertical sectional view.

Figure 3 is a transverse sectional view.

Referring to the drawings in detail, 10 indicates the metallic shell of the plug, in which is arranged the porcelain or insulated body 11. This body is held associated with the shell 10 in the usual well known manner, and is of the same design as the porcelain bodies now in use with the exception that this body is provided with spaced openings 12 arranged one above the other and the purpose of these openings will be presently set forth. It will be noted that the main electrode which passes centrally through the insulated body is made up of spaced sections 13, 14 and 15, and that the adjacent ends of the sections 14 and 15 are spaced apart to provide a gap within the uppermost opening 12 as clearly shown.

Again the lower end of the section 14 is spaced from the adjacent end of the section 15 to provide another gap within the lowermost opening of said body portion, and these sections are spaced further apart to provide a larger gap than the gap provided by the adjacent ends of the sections 13 and 14. The construction is such that the spark created at the lower end of the plug is not only materially intensified by reason of the provision of the gaps above referred to, but as the current passes through the main electrode, a spark is created in each of the openings 12 as it jumps the gaps and which sparks are utilized to maintain both the metallic shell 10 and the insulated body 11 heated with a view of instantly burning the oil brought in contact with these parts, thereby preventing carbonization and dirty plugs.

While it is believed that from the foregoing description, the nature and advantages of the invention will be readily understood, I desire to have it known that I do not limit myself to what is herein shown and described and that such changes may be resorted to when desired as fall within the scope of what is claimed.

Having thus described the invention, I claim:

A spark plug comprising a metallic shell, an insulated body arranged therein and having openings arranged one above the other, a main electrode made up of a plurality of sections having their adjacent ends spaced apart in the respective openings to form gaps, one of said gaps being wider than the other as and for the purpose specified.

ALFRED J. FRANCOEUR.