H. L. FLOOD.

SPARK PLUG.

APPLICATION FILED FEB. 20, 1917.

1,246,735. Patented Nov. 13, 1917.

Fig. 1.

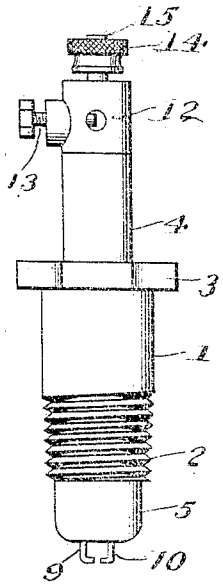


Fig. 2.

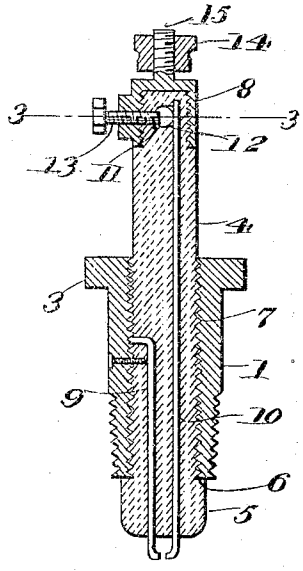


Fig. 3.

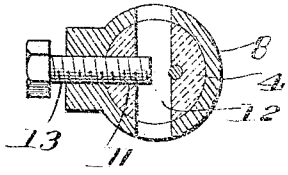
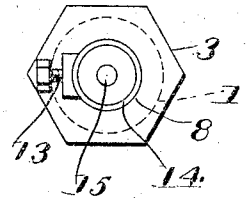


Fig. 4.



WITNESSES

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SPARK-PLUG.

1,246,735. Specification of Letters Patent. Patented Nov. 13, 1917.

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To all whom it may concern:

Be it known that I, HENRY LEE FLOOD, a citizen of the United States, residing at Ponca City, in the county of Kay and State of Oklahoma, have invented new and useful Improvements in Spark-Plugs, of which the following is a specification.

This invention comprehends improvements in spark plugs and has for one of its objects the provision of a spark plug having no cavities or recesses for the collection of carbon or soot to cause a shorting of the circuit.

Another object of the invention is to provide a spark plug having a core or insulating material which does not have to be removed from its shell when the plug is cleaned.

The invention also aims to generally improve spark plugs to render them more practical, simple and commercially desirable.

With these and other objects in view as will become more apparent as the description proceeds, the invention consists in certain novel features of construction, combination and arrangement of parts as will be hereinafter fully described, illustrated and claimed.

In the drawings,

Figure 1 is a side elevation of the spark.

Fig. 2 is a longitudinal sectional view therethrough.

Fig. 3 is a section on the plane at right angles to the plane of Fig. 2, and

Fig. 4 is a top plan view of the spark plug.

Referring in detail to the drawings by numerals, 1 designates a metallic sleeve or shell internally threaded for its entire length and externally threaded adjacent its inner end as indicated at 2 to screw into the cylinder of an engine. The shell is enlarged at its upper end to form wrench engaging faces 3.

Extending through the sleeve or shell 1 is an insulating core 4 of porcelain, mica or other suitable material and this core is formed on its inner end with a slightly enlarged head 5 having a shoulder 6 to squarely engage the inner end of the shell 1. The head may be slightly rounded and has a surface of regular contour which will not easily collect carbon, soot or other material. That portion of the core received within the shell 1 is externally threaded as at 7 to engage the threads on the shell. The outer portion of the core beyond the threaded portion is of somewhat reduced diameter and is externally threaded adjacent its end portion to engage with the internally threaded cap 8.

The electrode 9 extends laterally at its inner end to form a contact with the shell 1 and the electrode 10 which extends substantially the entire length of the core terminates at its outer end in a transverse recess 11 opening upon one side of the core. A sight opening 12 runs through the core at right angles to the recess 11 and intersects said recess.

The cap 8 carries an adjusting or intensifying screw 13 which extends into the recess 11 and which may be adjusted with respect to the electrode 10 to cause a spark which may be seen through the sight opening 12. A nut 14 screws on the binding post 15 and is for the purpose of connecting a wire to the spark plug.

When assembled the spark plug presents no cavities or recesses for the collection of carbon and soot and the core does not have to be removed from the shell when the points of the plug are to be cleaned. The spark plug is leak proof and possesses no bushings, gaskets and the like to get out of order. Current will flow in through the cap 8, jump the intensifying cap at the outer end of the electrode 19, jump the spark cap at the inner terminals of the electrodes and then flow through the electrode 9 to ground.

From the foregoing description taken in connection with the accompanying drawings, it will be apparent that I have provided a very simple and practical spark plug which will not be liable to get out of order and which will not readily be shorted by accumulations of carbon and soot.

While I have shown and described the preferred embodiments of my invention it will be clearly understood that I do not wish to be limited to this construction, but may make such changes as will fall within the scope and spirit of the invention as claimed.

What I claim is:—

1. A spark plug comprising a metallic shell adapted to fit into an engine cylinder, an insulating core extending through said shell, a head on the inner end of the core engaging the end of the shell, electrodes carried by said core, one of said electrodes being grounded and a cap on the outer end of said core.

2. A spark plug comprising an internally threaded shell adapted for connection to an engine cylinder, a core extending through said shell and threaded for engagement therewith, a head formed on the inner end of said core, said head lying entirely without the shell and engaging the inner end thereof, an electrode carried by said core and grounded to the shell, a second electrode running through the core, the core being formed with a transverse opening in which the second electrode terminates, a cap on the outer end of the core and an intensifying screw extending through said transverse opening into close proximity with the second mentioned electrode, and means for the connection of a wire to said shell.

3. A spark plug comprising a metallic shell internally threaded, an insulating core extending through said shell and threaded for engagement therewith, a rounded head on the inner end of said core for engagement with the inner end of the shell, and electrodes carried by the core, one of said electrodes being grounded to the shell.

In testimony whereof I affix my signature.

HENRY LEE FLOOD.