Mar. 27, 1923.

1,449,781.

F. C. RING.

SPARK PLUG.

FILED OCT. 25, 1921.

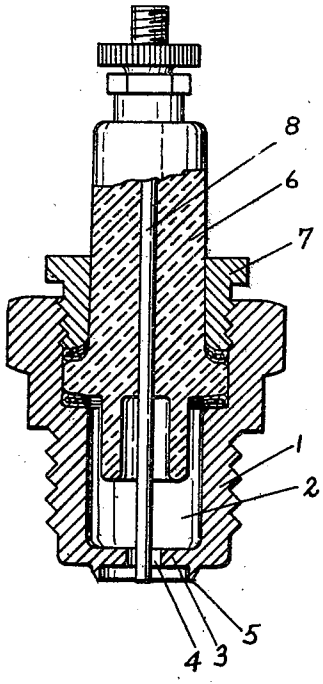


FIG. I.

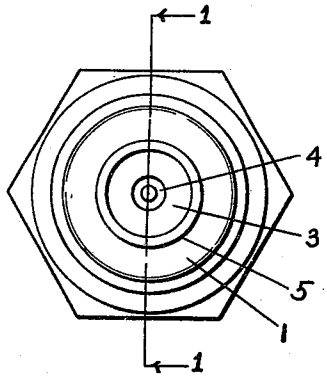


FIG. II.

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UNITED STATES PATENT OFFICE.

FRED C. RING, OF KALAMAZOO, MICHIGAN.

SPARK PLUG.

Application filed October 25, 1921. Serial No. 510,276.

To all whom it may concern:

Be it known that I, FRED C. RING, a citizen of the United States, residing at Kalamazoo, county of Kalamazoo, State of Michigan, have invented certain new and useful Improvements in Spark Plugs, of which the following is a specification.

This invention relates to improvements in spark plugs.

The main object of this invention is to provide an improved spark plug, the electrodes of which are kept substantially free from carbon or other deposits.

A further object is to provide an improved spark plug which gives uniformly "hot" sparks.

Further objects, and objects relating to details and economies of construction and operation will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification. The invention is clearly defined and pointed out in the claim.

A structure which is a preferred embodiment of my invention is fully illustrated in the accompanying drawing forming a part of this specification, in which:

Fig. I is a longitudinal central section of my improved spark plug, the parts being shown in full lines for convenience in illustrating.

Fig. II is an inverted or end view.

In the drawing the sectional views are taken looking in the direction of the little arrows at the ends of the section lines and similar numerals of reference refer to similar parts throughout the several views.

Referring to the drawing, I provide a body 1 externally threaded to screw into the cylinder and having a chamber 2 therein. The lower end of this chamber is substantially closed by the flange 3 providing a restricted central opening 4. This opening is surrounded by a downwardly projecting V-shaped annular flange 5. This flange 5 is spaced from the edges of the opening. The insulating core 6 is clamped within the body by means of a gland 7. The core carries the electrode 8 which projects centrally through the hole 4 with its tip in substantially the plane of the edge of the flange 5.

With the parts thus arranged, I secure a spark plug which does not become inoperative or foul with deposits of carbon or the like upon its electrodes, but is kept substantially free from deposits of all kinds. It is applicant's theory that the flange 5 prevents to a large degree the lubricant reaching the electrodes and that upon a quantity of explosive mixture being exploded within the chamber 2 the electrode and the edges of the opening 4, from which the spark passes, is wiped or freed from carbon or other deposit which would collect thereon.

My improved electrode produces uniformly "hot" sparks and has proven very efficient in engines or cylinders which have been found to quickly foul types of spark plugs in common use, certain cylinders or engines causing great annoyance through the fouling of the spark plugs therein as by cylinders which "pump oil", as it is designated, causing the deposit of a large amount of carbon. Even in such cylinders the electrodes of my improved spark plug are found clean after a long period of use.

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

In a spark plug, the combination of a chambered body having an inwardly projecting flange at its lower end with a central restricted opening and an annular downwardly projecting flange of V cross section surrounding said opening and spaced therefrom, a core mounted in said body, and an electrode carried by said core and projecting centrally through said opening with its lower end in substantially the plane of the edge of said flange.

In witness whereof, I have hereunto set my hand and seal in the presence of two witnesses.

FRED C. RING. [L. S.]

Witnesses:

VANCE G. HALL,

WM. NIEDRINGHAUS.