March 10, 1925.

1,528,949

J. REICH

SPARK PLUG

Filed Aug. 8, 1921

Fig. 1.

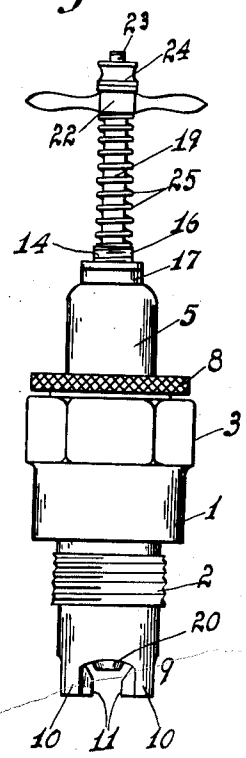


Fig. 2.

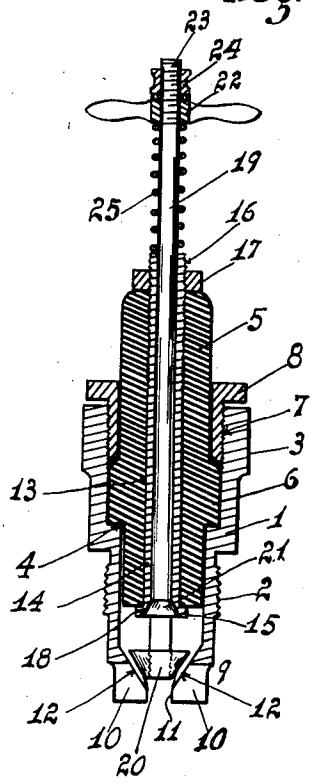
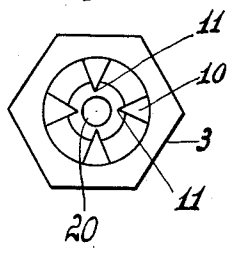


Fig. 3.



Inventor

Joseph Reich.

By Harry R. Schroeder

Attorney

Patented Mar. 10, 1925. 1,528,949

UNITED STATES PATENT OFFICE.

JOSEPH REICH, OF BERKELEY, CALIFORNIA.

SPARK PLUG.

Application filed August 8, 1921. Serial No. 490,541.

To all whom it may concern:

Be it known that I, JOSEPH REICH, a British subject, residing at Berkeley, in the county of Alameda and State of California, have invented certain new and useful Improvements in Spark Plugs, of which the following is a specification.

My invention is an improved spark plug constructed with improved means for cleaning its electrodes.

Referring to the annexed drawing in which my invention is illustrated and which forms a part of this specification:

Figure 1 is a side elevation of my spark plug.

Figure 2 is a longitudinal section of my spark plug.

Figure 3 is an inner end view of my spark plug.

In the drawing 1 indicates the plug casing having an external thread 2 which screws in the head of the engine cylinder and a wrench receiving surface formed on its upper end for securing the plug into the cylinder. The upper portion of said casing is larger in diameter than the lower portion providing an internal shoulder 4. A plug 5 of insulation fits in the casing through the upper end of the casing, said plug being formed with an annular external shoulder 6 which rests upon the casing shoulder 4. The casing 1 has an internal thread 7 in its upper end in which screws a sleeve nut 8 which surrounds the plug 5 and engages the plug shoulder 6 and holds the plug in the casing with the plug shoulder 6 against the casing shoulder 4. The inner end of the casing 1 forms the ground electrode 9 which is formed at its extremity with four ground points 10. The points 10 are spaced circumferentially and diametrically and each point converges inwardly to edges 11 from the upper end of which edges the inner surfaces 12 of the points which are opposite each other diverge upwardly. The plug 5 has a central longitudinal bore 13 through which extends a metal sleeve 14 on the inner end of which is an annular flange 15 which engages the lower end of the plug, the upper end portion of said sleeve having an external thread 16 to receive a nut 17 which engages the upper end of the plug. The sleeve 14 has a conical seat 18 in its lower end. An electrode rod 19 extends through the sleeve 14. A conical electrode 20 screws on the lower end of the rod 19 below the plug 5 within the lower end of the casing 1. A conical closure 21 is provided on the lower part of the rod 19 a short distance above the electrode 20. A handle 22 is screwed on a thread 23 on the upper portion of the rod 19 and a lock nut 24 screws on said thread against the upper side of the handle. A spring 25 surrounds said rod between the upper end of the sleeve 14 and the under side of the handle 22 and holds the rod in its uppermost position with the closure 21 upon its seat 18 and the electrode 20 slightly above the diverging electrode surfaces 12. The closure 21 when on its seat prevents any carbon from entering the sleeve 14.

The rod 19 may be pressed down by the handle 22 against the tension of spring 23 until the electrode 20 engages the electrode surfaces 12, and turned by the handle to clean both electrodes 9 and 20. When released the spring 23 returns the rod 19 and the electrode 20 and closure 21 to their normal position.

Having described my invention, I claim:

A spark plug including a casing, a ground electrode on the lower end of said casing, said electrode having a plurality of triangular spark gap terminal members arranged circumferentially, the said faces of said terminal members converging inwardly and meeting in upwardly diverging lines, an insulating plug mounted in said casing, a sleeve extending through said plug, a rod extending through said sleeve, and electrode in the form of the frustum of a cone secured on the lower end of said rod and being positioned adjacent to said lines, a handle on the upper end of said rod, a spring surrounding said rod between the upper end of said sleeve and said handle for normally holding said rod in its uppermost position, said spring allowing the rod and the electrode to be depressed and turned by means of the handle so that the electrode may engage and clean said terminal members.

In testimony whereof I affix my signature.

JOSEPH REICH.