

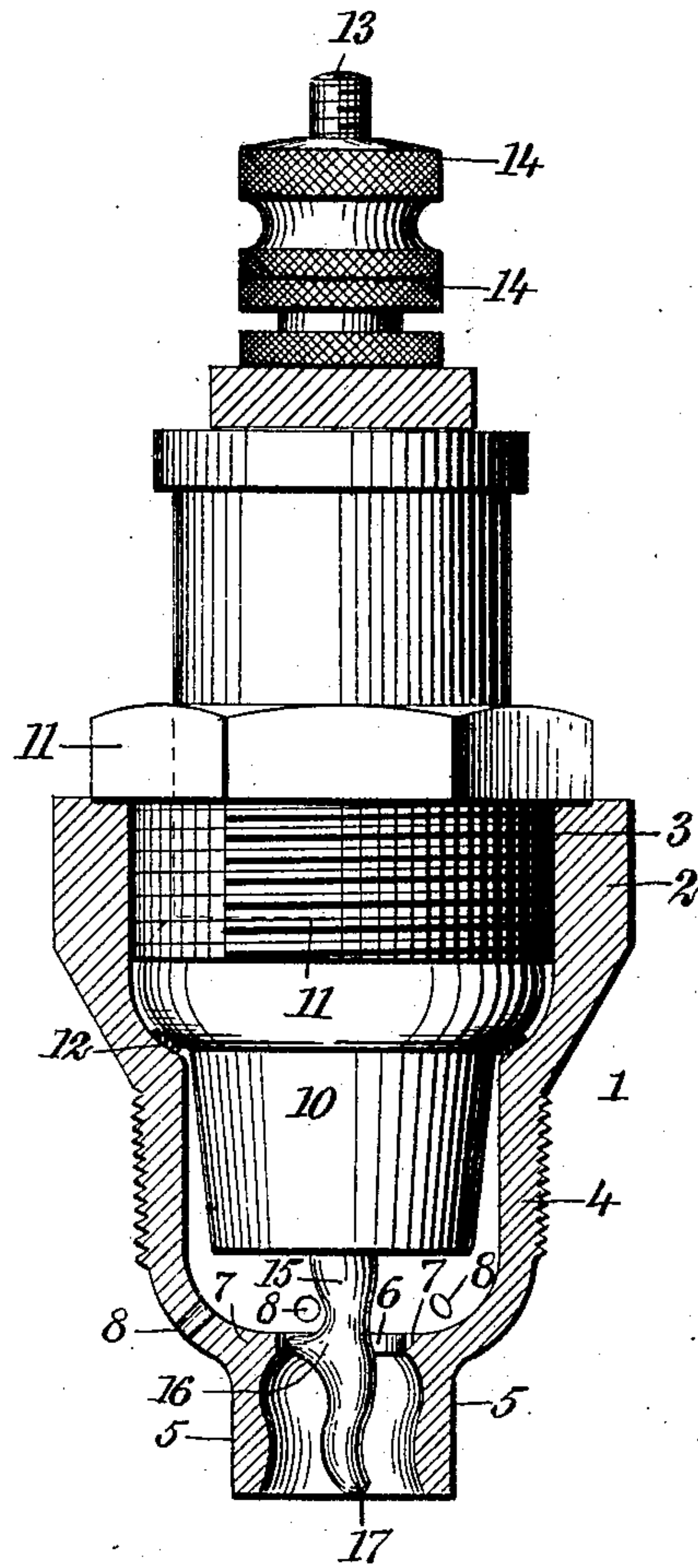
F. W. SMITH.

SPARK PLUG.

APPLICATION FILED JUNE 22, 1908.

925,239.

Patented June 15, 1909.



WITNESSES

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# UNITED STATES PATENT OFFICE.

FRED WILLIAM SMITH, OF ABERDEEN, SOUTH DAKOTA

## SPARK-PLUG.

No. 925,239.

Specification of Letters Patent.

Patented June 15, 1909.

Application filed June 22, 1908. Serial No. 439,717.

*To all whom it may concern:*

Be it known that I, FRED WILLIAM SMITH, a citizen of the United States, and a resident of Aberdeen, in the county of Brown and State of South Dakota, have invented a new and Improved Spark-Plug, of which the following is a full, clear, and exact description.

This invention relates to spark plugs adapted for igniting explosive mixtures and more particularly to such as have a casing forming the outer electrode, a removable insulating core and a central electrode, the latter being so formed at its lower end that a spark may pass to the lower end of the casing upon the closing of an electric circuit.

The object of the invention is to so construct the lower ends of the casing and central electrode that any soot or oil which may collect at the spark gap, upon either of them, will immediately be drawn off.

The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the claims.

Reference is to be had to the accompanying drawing forming a part of this specification, in which the figure shows a side elevation of an embodiment of the invention, having the casing in longitudinal section.

1 represents the casing of the device, of any suitable conducting material such as iron, steel or the like, and consisting of an extended portion 2 having an interiorly threaded portion 3, of a body 4 externally threaded to engage a correspondingly threaded opening in the cylinder, and a lower portion of lesser internal diameter 5 and a constricted opening 6 is formed between the body and the portion 5 by an inwardly disposed, annular flange 7. The inner face of the lower portion 5 is doubly curved, as shown in the drawing. The body 4 has openings 8 above the flange and connecting with the interior of the cylinder so that the mixture may enter to cause a more perfect explosion.

I provide the spark plug with a core 10 of insulating material held in place by an annular gland 11 suitably threaded to engage the similarly threaded portion 3 of the casing. The core may seat upon a gasket 12 of any suitable material, such as copper, asbestos, rubber or the like, serving to effect a gas tight joint. Extending through the core is the central electrode, having its upper end 13 suitably threaded to form the post of the spark plug, on which the customary binding

nuts 14 are arranged to hold the wire connections in place. The lower end 15 of the central electrode extends from the core through the lower portion 5 of the casing. At a point adjacent to the flange 7 which forms the constricted opening 6 the central electrode has a projection 16 from which the spark jumps to the flange 7 across the gap. The free end 17 of the electrode acts as a drip point to draw off any oil or soot which may collect near the spark gap. The lower end 15 is of reduced diameter at a point a short distance above the projection 16, and the upper surface of the projection extends substantially horizontally, so that the oil or other liquid in flowing down the central electrode will tend to avoid the projection and assume a course toward the opposite side of the central electrode therefrom. The upper side of the flange 7 is substantially horizontal, while the lower side thereof curves away from the central electrode to facilitate the flow of the oil.

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

1. A spark plug comprising a casing and an insulating core, the casing having a portion of lesser internal diameter extending beyond the end of the core, said casing being provided with an internal annular flange at the junction of the portion of lesser diameter therewith, and an electrode extending beyond the core and into the portion of lesser internal diameter, said electrode being provided with a substantially horizontal projection at the level of the flange.

2. A spark plug comprising a casing and an insulating core, the casing having a portion of lesser internal diameter extending beyond the end of the core, said casing being provided with an internal annular flange at the junction of the portion of lesser diameter therewith, and an electrode extending beyond the core and into the portion of lesser diameter, said electrode being provided with a substantially horizontal projection at the level of the flange, the casing being provided with openings above the flange.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRED WILLIAM SMITH.

Witnesses:

W. I. HULETT,  
J. M. LAWTON.