

L. T. RHOADES.
SPARKING MECHANISM FOR INTERNAL COMBUSTION ENGINES.
APPLICATION FILED MAR. 15, 1911.

1,034,835.

Patented Aug. 6, 1912.

FIG. 1.

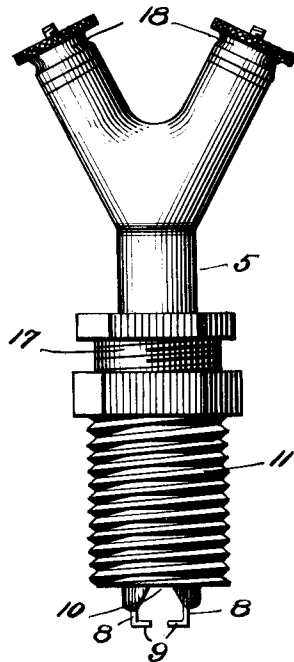


FIG. 2.

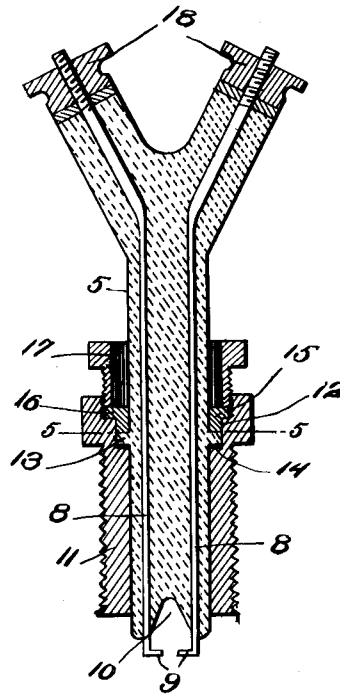


FIG. 3.

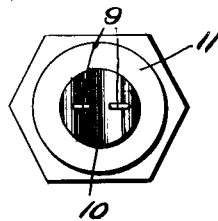


FIG. 4.

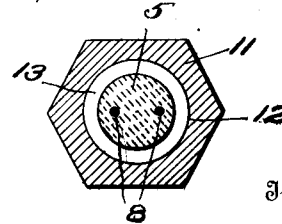
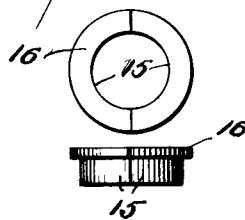


FIG. 5.



Witnesses

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LEWIS T. RHOADES, OF MONT CLARE, PENNSYLVANIA.

SPARKING MECHANISM FOR INTERNAL-COMBUSTION ENGINES.

1,034,835.

Specification of Letters Patent.

Patented Aug. 6, 1912.

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To all whom it may concern:

Be it known that I, LEWIS T. RHOADES, a citizen of the United States, residing at Mont Clare, in the county of Montgomery and State of Pennsylvania, have invented certain new and useful Improvements in Sparking Mechanism for Internal-Combustion Engines, of which the following is a specification.

My invention relates to improvements in sparking mechanism for internal combustion engines, and more particularly to an improved construction of plug, containing two electrodes completely insulated from each other, and so shape the inner end of the plug as to reduce the possibility of carbonizing to a minimum, at least to such an extent which will permit the electric current to take an undesired path.

With this object in view, the invention consists in certain novel features of construction, and combinations and arrangements of parts, as will be more fully hereinafter described and pointed out in the claims.

In the accompanying drawings: Figure 1, is a view in elevation of my improved plug. Fig. 2, is a view in longitudinal section thereof. Fig. 3, is an end view of Fig. 2. Fig. 4, is a view in section on the line 5—5 of Fig. 2, and Fig. 5, illustrates the sectional ring 15.

5, represents the core of my improved plug which is preferably of porcelain or other non-conducting material of the general Y-shape shown, and having embedded therein two electrodes 8, effectually insulated from each other and from any metallic part of the engine. The lower ends of these electrodes are bent inwardly toward each other as shown at 9, and are spaced apart the proper distance to give the necessary arc for the current, in its passage, to form a spark. This lower end of the core 5 is made, between the electrodes, with an inverted V-shaped recess 10. This recess prevents a bridging of the gap by carbonization against the core. At least, it prevents it for a long time, as it will take considerable time for carbonization to cover the surface and connect the electrodes.

In order to securely clamp the plug in the end of the cylinder, an externally screw-threaded bushing 11 is screwed into the cylinder, and is provided at its upper end with a recess 12 of two diameters, the outer

larger diameter screw-threaded, while the smaller diameter is smooth. Core 5 is made with an integral annular flange 13 to seat within the smaller diameter of recess 12, and preferably against a packing 14. On top of this flange 13, a sectional ring 15 is positioned, and this sectional ring 15 fits within the smaller diameter of recess 12, but is provided at its upper edge with an annular flange 16, which projects into the larger diameter of said recess 12, and in the path of a screw-threaded ring 17. This ring 17 is screwed into the larger diameter of the recess 12, and has an internal diameter large enough to accommodate the flange 13, so that the ring 17 may be positioned on the core 5 before the latter is projected into the bushing 11. This enables the parts to be assembled before the bushing is screwed into the threaded opening in the engine, and hence these parts may be manufactured and sold in assembled form ready for instant connection to an engine.

The outer ends of the electrodes 8 project up through the diverging members of the Y-shape core 5, and are screw-threaded and provided with nuts 18, forming binding posts to receive the electric wires.

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

1. A spark plug composed of a core of non-conducting material, and having an annular flange thereon, a bushing adapted to be screwed into an engine cylinder and having a recess in its end of two diameters, said flange adapted to seat within the smaller diameter, a sectional ring positioned against said flange and having an annular flange projecting into the larger diameter of said recess, a ring of an internal diameter larger than the diameter of the first-mentioned flange, and externally screw-threaded to screw into the bushing, and against said sectional ring, said core having two electrodes insulated from each other and having their inner ends exposed and bent toward each other, said electrodes adapted at their inner ends to spark to each other, and an inverted V-shaped recess in the inner end of said core between said electrodes, substantially as described.

2. A spark plug composed of a core of non-conducting material, and having an annular flange thereon, a bushing adapted to be screwed into an engine cylinder and hav-

ing a recess in its end of two diameters, said flange adapted to seat within the smaller diameter, a sectional ring positioned against said flange and having an annular
5 flange projecting into the larger diameter of said recess, a ring of an internal diameter larger than the diameter of the first-mentioned flange, and externally screw-threaded to screw into the bushing, and against
10 said sectional ring, said core having two electrodes insulated from each other and having their inner ends exposed and bent toward each other, said electrodes adapted at their inner ends to spark to each other,
15 an inverted V-shaped recess in the inner end

of said core between said electrodes, the upper end of said core made Y-shape, and said electrodes projecting respectively through the inclined members of the Y-shaped portion and screw-threaded, and 20 nuts screwed onto the threaded ends of said electrodes, substantially as described.

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

LEWIS T. RHOADES.

Witnesses:

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M. B. LISSNER.