

J. M. DAYTON.
SPARK PLUG.
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1,001,363.

Patented Aug. 22, 1911.

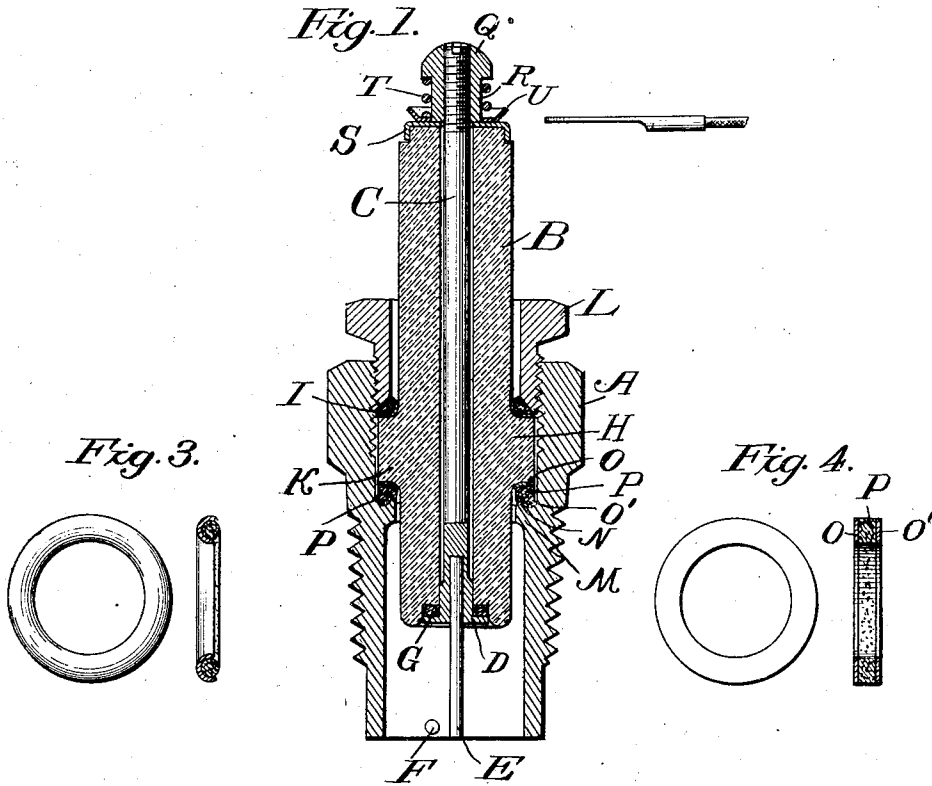
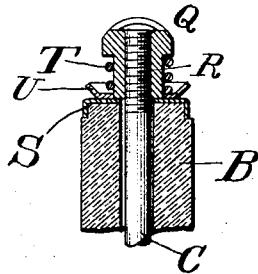


Fig. 2.



Witnesses

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UNITED STATES PATENT OFFICE.

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SPARK-PLUG.

1,001,363.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JAMES M. DAYTON, a citizen of the United States, residing at Torrington, in the county of Litchfield, State of Connecticut, have invented certain new and useful Improvements in Spark-Plugs, of which the following is a description, reference being had to the accompanying drawing and to the letters and figures of reference marked thereon.

My invention relates to an improvement in spark plugs, particularly of the type employed in what is termed the jump spark or high tension system of ignition in gas and oil engines.

The object of the invention is to provide a simple and effective means of securing the center or stem which carries one of the electrodes to the insulating sleeve tube or plug, whereby it may be firmly secured and yet expansion and contraction provided for. Means also are provided for securely yet removably holding the terminal clip in engagement with the rod.

The invention, therefore, consists in the matters hereinafter described and referred to in the appended claims.

The invention is illustrated in the accompanying drawings, in which,—

Figure 1 is a sectional view of a spark plug constructed in accordance with my invention; Fig. 2 is a section of the top at right angles to Fig. 1; and Figs. 3 and 4 are detail views of the packing gaskets used.

In these drawings, A represents the nipple or plug base or the body portion of the spark plug, and B the insulating sleeve tube or plug, usually of porcelain, which forms an insulating support for the metal center rod or stem C, passing through said sleeve or tube, and forming a part of the conductor of the sparking circuit. At the inner end of the sleeve the rod carries a head D, in the hollow part of which is attached the stem of the center electrode E. The other electrode F or sparking terminal, is of wire and is secured to the plug base or nipple A.

In the inner end of the insulating plug B is a cavity in which is placed a packing of asbestos G, and the flange on the head D is adapted to bear against this packing forming a tight joint. Means are also provided for forming a tight joint between the nipple or base and the insulating tube, as follows:

The insulating tube or plug is formed with

an enlargement H forming upper and lower shoulders I and K. L represents the bushing or stuffing nut, which is screw-threaded into the base or nipple, and at its lower end bears upon the copper gasket with asbestos filling, which rests upon the shoulder I, and is shown in Fig. 3. The nipple or plug base has beneath the shoulder K on the insulating tube or plug B a shoulder M, having a projection or corrugation N, and forming a round corner and a sharp edge. In the space between the two shoulders are placed two copper washers, with an asbestos washer between, as shown at O, O' and P, in Fig. 4. When the parts are screwed together, the base being, as above stated, counterbored so as to leave both a round corner and a sharp edge N, and the stuffing nut or bushing L is screwed into the base, the porcelain plug is forced against the packing O, P, and the copper washer O' takes the form of the counterbore, and the whole thing makes a gas-tight joint, the asbestos being pressed out beyond both edges of the copper washers, as shown. The upper end of the center rod or stem C is screw-threaded, and upon this is threaded a nut Q having a head and a shank R, which extends downwardly and bears upon a cap S fitting over the top of the insulating tube. If desired, a washer may be interposed between the tube and the cap S. Surrounding the shank of the nut Q is a spring T bearing at one end beneath the head of the nut Q and at the other end resting in a cupped washer U, which surrounds the lower part of the shank R and rests on the cap S. The terminal clip V is forced into contact with the center rod between the cupped washer U and the cap S.

When the parts of the plug have been assembled, the upper end of the center rod is riveted on the head of the nut Q, thus positively locking it. The spring T has the double function of keeping the head on the lower end of the center rod tight against its adjacent packing, and taking up and allowing for expansion and contraction due to variation in heat, and also keeps the cupped washer U firmly on its seat, thus holding the terminal clip tightly in place.

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

1. A sparking plug comprising an insu-

lating sleeve, a stem or electrode passing through said sleeve, a cap applied to the outer end of said sleeve; a headed nut screwed on said stem, and provided with a
5 shank bearing directly on the cap to hold the latter against the insulating sleeve, and a spring interposed between the cap and the head of the nut and surrounding said shank for holding a terminal clip against said cap.
10 2. A sparking plug comprising an insulating sleeve, a stem or electrode passing through said sleeve, a cap applied to the outer end of said sleeve, a headed nut screwed on said stem, and provided with a

shank bearing directly on the cap to hold 15 the latter against the insulating sleeve, and a spring interposed between the cap and the head of the nut and surrounding said shank, and a cupped washer interposed between the lower end of the spring and the 20 cap.

In testimony whereof I affix my signature, in presence of two witnesses.

JAMES M. DAYTON.

Witnesses:

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CHAS. M. HIBBARD.