Jan. 18, 1927. 1,614,951

H. M. FULLER

SPARK PLUG INTENSIFIER

Filed Nov. 4, 1925

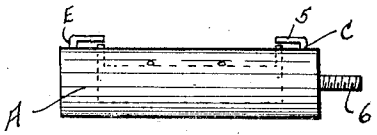


Fig. 1.

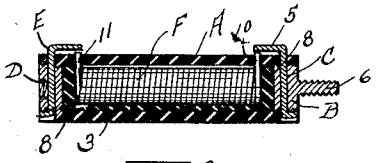


Fig. 2.

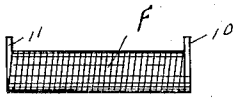


Fig. 3.

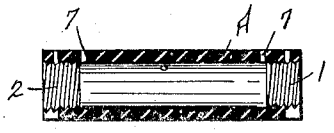


Fig. 4.

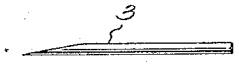


Fig. 5.

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UNITED STATES PATENT OFFICE.

HARY M. FULLER, OF SALT LAKE CITY, UTAH.

SPARK-PLUG INTENSIFIER.

Application filed November 4, 1925. Serial No. 66,723.

My invention relates to electric sparks, and has for its object to provide a new and efficient electric spark intensifier, whereby the heat of the spark is increased in the circuit as the electric current passes through the device.

A further object is to provide a compact spark intensifier which may be enclosed in a spark plug or connected therewith to intensify the spark.

These objects I accomplish with the device illustrated in the accompanying drawings in which similar letters and numerals of reference indicate like parts throughout the several views, and described in the specification forming a part of this application and pointed out in the appended claims.

In the drawings in which I have shown the best and most preferred embodiment of my invention, Figure 1 is a side elevation of my invention. Figure 2 is a longitudinal diametrical section of the device. Figure 3 is a side elevation of the coil element used in my device. Figure 4 is a longitudinal section of the insulating casing. Figure 5 is a side elevation of the key used to hold the coil in place.

My invention consists of a cylindrical casing A, made of insulating material and being internally threaded at each end, as at 1 and 2. A wire carrying contact plug B is screwed into one end of the casing A, and is diametrically bored to carry a wire C therein. A portion of the wire C is bent parallel to the axis of the plug B, as shown at 5. A threaded axial lug 6 is provided on one end of the plug B on which the electric wire (not shown) is fastened by any of the conventional means. An axially bored contact plug D is screwed in the opposite end 2 of the casing A, which is also diametrically bored to carry another wire E therein. A portion of the wire E is bent at right angles and parallel with the axis of the plug D. A coil F made of insulated wire is fastened by the key 3 within the said casing A with the end portion of said wire protruding through the radially disposed holes 7. Insulation plugs 8 are placed within said casing A between the ends of the coil F and the plugs B and D to insulate the coil F from the said plugs, with the ends of the wires 5 and 10, and of E and 11 spaced apart to form two spark gaps between the respective wires.

The operation of my device is as follows: The plug D is screwed on the upper end of the spark plug of an engine and the other wire is secured to the upper end of the plug B by the threaded lug 6, or the device may be secured in a like manner wherever an increased intensified spark is required. The current of electricity is introduced through the lug 6 into the plug B and through the wire C the spark will jump from the end of the wire C to the wire 10 which is the outer end of the coil F. The current will then travel the length of the insulated coil F and will jump the gap between the end of the said coil wire 11 to the outer end of the wire E, and will then be carried through the plug D to the spark plug or other sources as desired. The spark thus produced will be intensified in heat and strength and the amount of intensification will be governed by the length of the coil F. A longer coil will increase the heat of the resultant spark and a shorter coil will reduce the heat and intensity of the spark.

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

1. A spark intensifier comprising a cylindrical casing made of insulating material having openings in its wall; a contact plug in each end of said casing; electric lead wires connected with each of said plugs and the adjacent ends spaced apart; a coil of insulated wire carried in said casing with the ends thereof protruding through the openings in the wall of the casing, and with the ends of said coiled wire spaced from the adjacent lead wires to form two spark gaps in the circuit of said wires; and insulating plugs between each of said contact plugs and the adjacent end of said coil.

2. A spark intensifier comprising a casing made of insulating material and having openings in its wall; a contact plug in each end of said casing; a wire in each of said plugs with their end portions adjacent the openings in the wall of the casing; a coil of insulated wire secured in said casing with the end portions thereof protruding through said openings and spaced from the end portions of the wires in said contact plugs to form two spark gaps.

In testimony whereof I have affixed my signature.

HARY M. FULLER.