Jan. 2, 1940. G. D. CRAWFORD 2,185,938

SPARK INTENSIFIER

Filed April 21, 1939

Fig. 1.

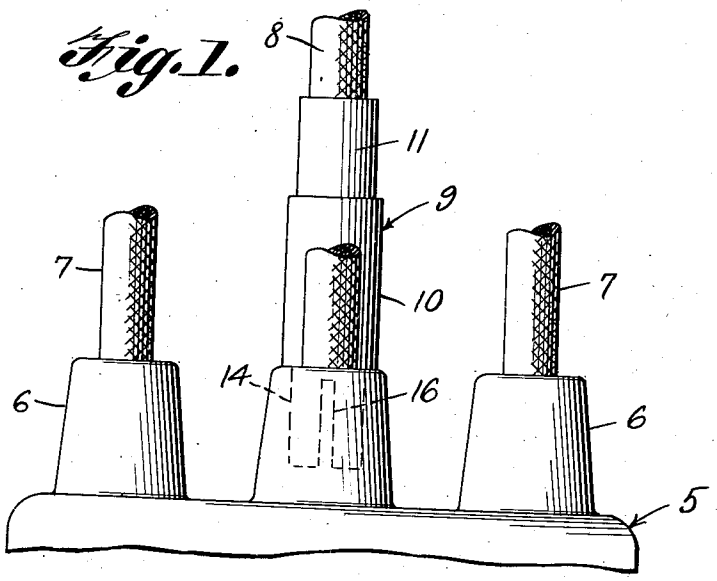


Fig. 2.

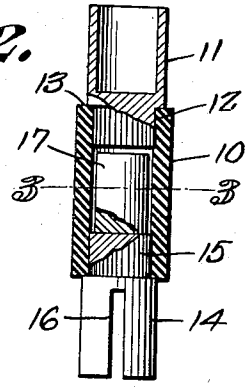
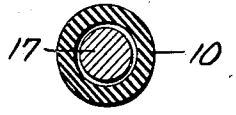


Fig. 3.



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Patented Jan. 2, 1940 2,185,938

UNITED STATES PATENT OFFICE

2,185,938

SPARK INTENSIFIER

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Application April 21, 1939, Serial No. 269,283

1 Claim. (Cl. 123—148)

The present invention relates to a new and improved spark intensifier.

The primary object of the invention resides in the provision of an intensifier adapted to be positioned on the distributor of an ignition system for receiving the high tension wire from the spark coil for stepping up the distribution of spark to the plugs.

The advantages of the herein described and illustrated spark intensifier are multiple in that it materially eliminates the amount of carbon in the engine thereby reducing to a minimum the necessity of valve grinding. The use of the same will also provide increased power of the engine with greater mileage per gallon of gas consumption.

Another object of the invention is the provision of an intensifier for the above purposes which is simple in construction, novel in design and efficient in operation and which may be readily installed with a minimum amount of time and effort.

The invention will be fully and comprehensively understood from a consideration of the following detailed description when read in connection with the accompanying drawing which forms a part of the application.

In the drawing:

Figure 1 is a side elevational view of a portion of a distributor cap with the improved spark intensifier positioned therein.

Figure 2 is a vertical sectional view of an intensifier embodying the features of the present invention, and

Figure 3 is a transverse sectional view taken substantially on line 3—3 of Figure 2.

Referring to the drawing for a more detailed description thereof, a distributor cap of conventional construction is indicated generally by the reference numeral 5 and comprises the usual number of connecting sockets 6 having lead-in wires 7 adapted to convey spark to the spark plugs of the internal combustion engine. Each distributor of an ignition system further includes a high tension wire 8 leading from the spark coil, not shown.

The intensifier adapted to be positioned within the distributor cap, is generally designated by the reference numeral 9 and comprises a hollow substantially cylindrical-shaped sleeve 10 formed of insulating material such as rubber, Bakelite or the like. The upper end of the sleeve 10 receives a brass thimble-like tubing 11, the interior of which is hollow and of the correct shape and size for receiving the high tension wire 8 leading from the spark coil. Referring more particularly to Figure 2 of the drawing, it will be noted that the tubing 11 is formed with a reduced end 12 receivable within the upper end of the sleeve 10 and forming a shoulder 13 which rests upon the upper end of said sleeve.

For attaching the intensifier 9 within the central-most socket of the distributor 5, there is provided a thimble-like tubing 14 formed of brass or similar conductive material, which tubing is also formed with a reduced end 15 frictionally held within the lower end of the sleeve 10. The tubing 14 is formed with longitudinal slots 16 whereby it is readily expansible and contractible for positioning in various sized sockets.

A conductor 17 is placed within the sleeve 10 between the reduced ends 12 and 15 of the thimbles 11 and 14, respectively. The conductor 17 is a solid member preferably formed of steel or the like and when positioned within the sleeve is so formed as to leave a gap or space between the reduced end 12 and the side of the sleeve 10. The conductor 17 is loosely mounted within the cylinder so that when spark from the thimble 11 hits the same it has a tendency to revolve thereby reducing to a minimum the possibility of its burning out. The gap or space provided in the cylinder allows for an intense spark on the contact points of the spark plugs thereby enabling the gaps between said contact points to be materially enlarged. Enlarging the spark plug gaps results in less consumption of gas thereby rendering better mileage and also a consequent reduction in the amount of carbon deposit on the valves and other moving parts of the motor.

To install the intensifier, the conducting wire from the spark coil is removed from its socket and is replaced by the tubing 14 which is firmly held within the socket. The end of the conducting wire is then positioned within the thimble-like tubing 11 with the end thereof in contact with the tubing so that proper conduction is made. It will thus be seen that the installation of the intensifier requires a minimum amount of time and effort. The conductor 17 will at all times rest upon the reduced end of the conductive tubing 14 and will form an efficient means for carrying the spark from the coil to the distribution points.

Also it will be understood, of course, by those skilled in the art that variations in the herein-above described device involving the substitution of substantial equivalents for the devices described are intended to be comprehended within

the spirit of the present invention and that the invention is capable of extended application and is not confined to the exact showing of the drawing nor to the precise construction described and, therefore, such changes and modifications may be made therein as do not affect the spirit of the invention nor exceed the scope thereof as expressed in the appended claim.

What is claimed is:

A spark intensifier of the character described comprising, a hollow substantially cylindrical-shaped sleeve, said sleeve being formed of insulating material, a split tubular member having a reduced end receivable within one end of said sleeve for attaching said intensifier to a distributor, a tubular shaped member disposed within the other end of said sleeve and adapted to receive a conducting wire from a spark coil, both of said sleeves being formed of conductive material, and a conductor positioned within said sleeve between said tubes, said conductor being substantially cylindrical-shaped and of a size so as to provide a space between the end of said conducting wire holder and the side of said sleeve.

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