

Feb. 7, 1933.

G. FOSSATI

1.896.444

SPARKING PLUG

Filed Dec. 17, 1930

Fig. 1

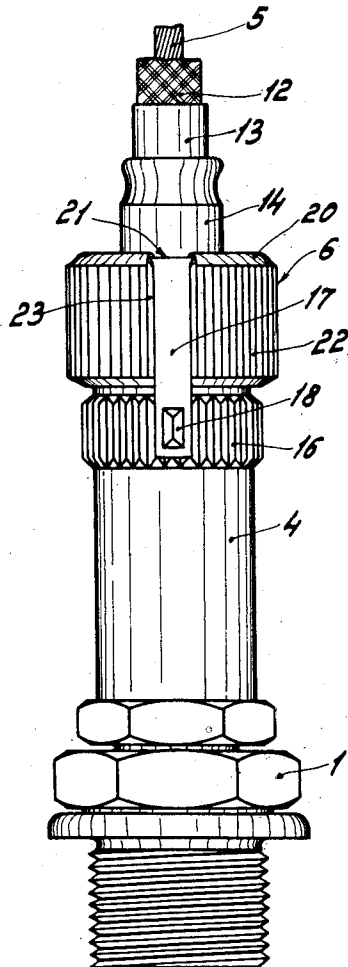


Fig. 2

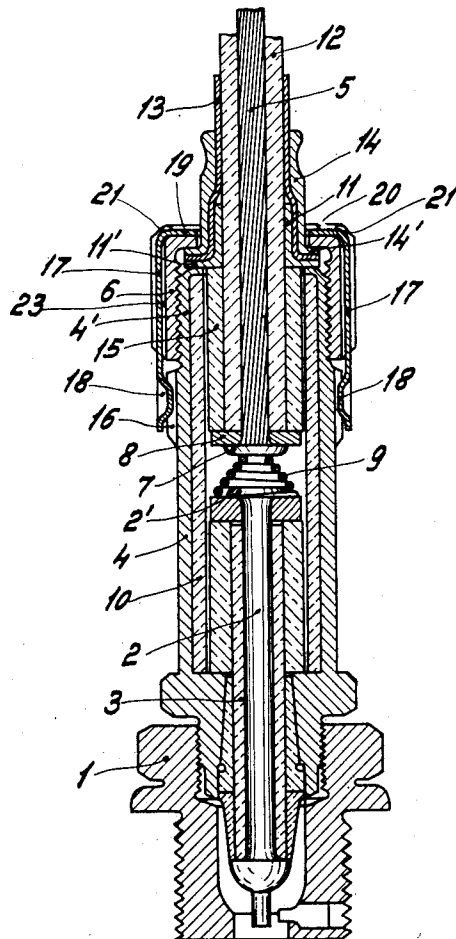
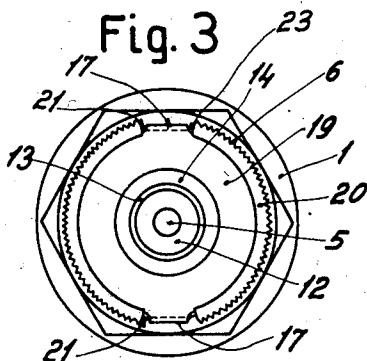


Fig. 3



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UNITED STATES PATENT OFFICE

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SPARKING PLUG

Application filed December 17, 1930, Serial No. 503,053, and in Italy September 15, 1930.

This invention relates to sparking plugs for internal combustion engines having screening means for preventing the actions of electric currents flowing therethrough from propagating to exterior and influencing other circuits as those of radio sets on vehicles, particularly on aerial vehicles.

The present invention provides a screened sparking plug whose transverse size does not require to be larger than those of an ordinary sparking plug and for such purpose the sparking plug of this invention comprises a screening member having a thin insulating lining which encircles the usual insulator of the plug electrode.

This invention also comprises other features directed to assist and improve the connection of sparking plug parts with feeding cable and screen therefor.

An embodiment of this invention is shown by way of example on the annexed drawing and

Figure 1 is an outer view thereof,

Figure 2 is a central section of the same,

Figure 3 is a top view.

As shown in said drawing, the plug comprises a conducting plug body 1 in which a central electrode 2 is mounted with an intermediate insulator 3.

Screening means comprise a metal sleeve 4 encircling plug body 1 and fastened thereon, said sleeve 4 providing a space in which means are located for connecting said electrode 2 with a current feeding conductor 5 which enters sleeve 4 through an opening of a cap 6, to be hereinafter described. Connecting means intermediate electrode 2 and conductor 5 comprise an enlarged head 7 of the conductor 5 extending over a washer 8 and a spring 9 contacting with said conductor head 7 and connected with electrode 2 by being engaged under the expanded head 2' thereof.

Sleeve 4 has an insulating tube 10 lining its internal surface and consisting of glass,

porcelain or the like; said tube 10 acts as insulator for the screening chamber provided by sleeve 4.

To provide fastening means on the end of the sheathed conductor 5 a flanged collar 11 is inserted intermediate the insulating coating 12 of the cable and metal screening sheath 13 thereof, said collar 11 being fastened in position by means of a flanged sleeve 14 forced over said sheath 13; a spacing insulating sleeve 15 is engaged over said cable intermediate flange 11' of collar 11 and washer 8, it being located in position before said washer 8 and therefore before providing head 7 on end of conductor 5.

The shoulder provided on the cable by flanges 14' and 11' of sleeves 14 and 11 respectively is engaged by the edge of cap 6 which is adapted to be screwed on screw-threaded end portion 4' of sleeve 4, said cap 6 engaging the cable with the plug and forcing the head 7 of conductor 5 in contact with spring 9 and electrode head 2'.

To prevent undue release, sleeve 4 has flutes 16 on its outer surface and cap 6 has resilient tongues 17 providing inward projections 18 for engaging flutes 16.

In the illustrated embodiment said tongues 17 consist of radial extensions of a sheet metal washer 19 (Figure 3) which is engaged in a top recess of outer top surface of cap 6 and is fastened therein by an inturned flange 20 of said cap which encircles said seat.

Said flange 20 has two recesses 21 entered by tongues 17 which lie adjacent to cylindrical portion of cap 6 in register with smooth portions 23 of the same, said cap 17 being provided with flutes 22 or the like in portions extending intermediate said smooth portions 23 to assist in grasping and manipulating it.

The tongues 17 are thus engaged angularly with cap 6 while being free to move resiliently in radial direction and therefore projections 18 of tongues 17 are free to move out-

wards when cap 6 is to be screwed on or off, while when the said cap 6 is in position, it is prevented from undue release by teeth 18 of tongues 17 engaging flutes 16 of sleeve 4.

5 What I claim as my invention and desire to secure by United States Letters Patent is:—

1. Means for fastening and locking a cable on a spark plug or the like, comprising a
10 metallic sleeve connected with said plug or the like, a perforated cap screwed on the outer end of said sleeve, a member fastened on said cable extending through the bore of said cap and engaged therewith, engaging
15 means on said sleeve, and resilient members connected with said cap and cooperating with said sleeve-engaging-means for locking said cap thereon.

2. Means for fastening and locking a cable
20 on a spark plug or the like, comprising a metallic sleeve connected with said plug or the like, a perforated cap screwed on the outer end of said sleeve, a member fastened on said cable extending through the bore
25 of said cap and engaged with it, engaging means on said sleeve, a sheet metal washer engaged on said cap, and tongues extending from said washer and cap in the direction of the cap axis, said tongues cooperating with
30 said sleeve engaging means for locking said cap thereon.

3. Means for fastening and locking a cable on a spark plug or the like, comprising a
35 metallic sleeve connected with said plug or the like, a perforated cap screwed on the outer end of said sleeve, said cap having longitudinal recesses on its side surface, a member fastened on said cable extending through the bore of said cap and engaged
40 with it, engaging means on said sleeve, a sheet metal washer engaged on said cap, and tongues extending from said washer and lying in said cap recesses, said tongues cooperating with said sleeve engaging means for
45 locking said cap thereon.

4. Means for fastening and locking a cable on a spark plug or the like, comprising a
50 metallic sleeve connected with said plug or the like, flutes on said sleeve, a perforated cap screwed on the outer end of said sleeve, said cap having longitudinal recesses on its side surface, a member fastened on said cable extending through the bore of said cap and engaged with it, a sheet metal washer en-
55 gaged on said cap, tongues extending from said washer and lying in said cap recesses, and projections on said tongues adapted to engage said sleeve flutes for locking said cap thereon.

60 5. Means for fastening and locking a cable on a spark plug or the like, comprising a metallic sleeve connected with said plug or the like, flutes on said sleeve, a perforated cap screwed on the outer end of said sleeve,
65 said cap having longitudinal recesses on its

side surface and a top seat, a member fastened on said cable extending through the bore of said cap and engaged with it, a sheet metal washer engaged in said cap seat, tongues extending from said washer and lying in said cap recesses, and projections on said tongues adapted to engage said sleeve flutes for locking said cap thereon.

In testimony whereof I have signed my name to this specification.

GIUSEPPE FOSSATI.