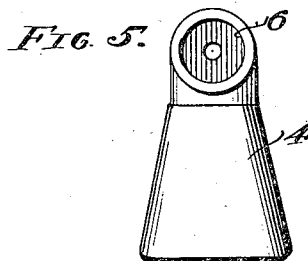
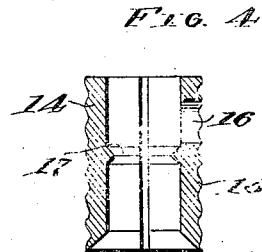
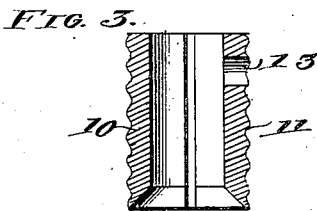
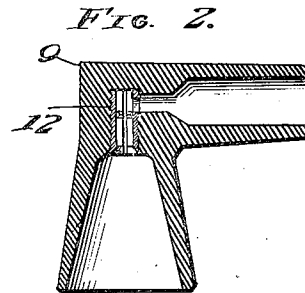
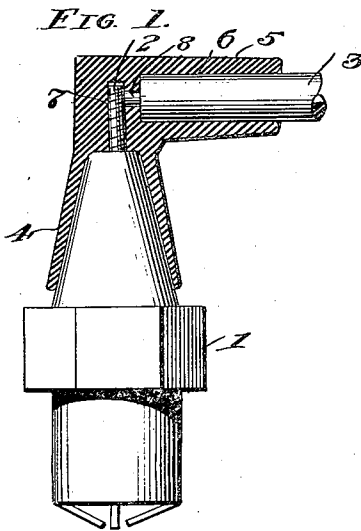


E. H. WEBER.
 COMBINED SPARK PLUG TERMINAL AND PROTECTOR.
 APPLICATION FILED SEPT. 16, 1919.

1,376,844.

Patented May 3, 1921.



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COMBINED SPARK-PLUG TERMINAL AND PROTECTOR.

1,376,844.

Specification of Letters Patent.

Patented May 3, 1921.

Application filed September 16, 1919. Serial No. 324,076.

To all whom it may concern:

Be it known that I, EDMUND HERBERT WEBER, a citizen of the United States, and a resident of Ranier, in the county of Koochiching and State of Minnesota, have invented certain new and useful Improvements in Combined Spark-Plug Terminals and Protectors, of which the following is a specification.

My invention is an improvement in spark plug terminals and protectors, and has for its object to provide a device of the character specified, wherein a one-piece combined terminal and protector is provided for conveniently attaching the wire to the plug without tools or solder, and without the possibility of receiving a shock from contact with the parts.

A further object is to provide a device of the character specified of insulating material, having a metal lining providing a positive means for preventing the terminal from becoming detached from the spark plug accidentally, and to prevent the gripping surfaces wearing out from frequent attachment for cleaning or changing.

A further object is to provide a device that will fit all makes of spark plug terminals regardless of size.

In the drawings:—

Figure 1 is a side view of the spark plug having the protector, with the protector in section,

Fig. 2 is a view of the protector removed showing the metal lining,

Fig. 3 is a section through the lining,

Fig. 4 is a similar view of another form of lining,

Fig. 5 is a front view of the protector.

In the present embodiment of the invention, a spark plug 1 of usual construction is provided, the said plug having the usual terminal 2 with which the conductor 3 is to be connected. The protector which is of insulating material, as for instance, soft rubber consists of portions 4 and 5, extending at approximately right angles with respect to each other.

The portion 4 of the protector is frusto-conical in shape, adapted to fit over the end of the spark plug, and the portion 5 has a substantially cylindrical bore 6 for receiving the end of the conductor. The metal portion of the conductor is bared as shown in Fig. 1, to engage the terminal.

At the junction of the portions 4 and 5,

the bore of the flaring portion 4, and that of the portion 5 are connected by passages 7 and 8 adapted for the spark plug terminal and the bared wire respectively. It will be evident that with the conductor in place, in the protector as shown in Fig. 1, when the protector is pushed onto the spark plug, the terminal 7 will engage the bared wire making a perfect contact.

In the construction shown in Fig. 2, the protector 9 which is similar to that shown in Fig. 1 has a metal lining for the terminal. This lining may be as shown in Fig. 3 or as shown in Fig. 4. In Fig. 3, the lining consists of sections 10 and 11 each of which is a half cylinder, that is, the entire lining is of cylindrical form slit diametrically into two halves.

The outer surface of each of these sections is roughened or corrugated as shown to insure a close engagement in the opening 12 which corresponds with the opening 7 of Fig. 1, and one of the sections has a radial opening 13 for the passage of the conductor. The lower ends of the sections are counter-bored or reamed as shown to facilitate the entrance of the terminal 7.

In the construction shown in Fig. 4, the lining consists of sections 14 and 15 similar to the sections 10 and 11 in that they have roughened exteriors, and in that the section 15 has an opening 16 for the conductor. These sections however have an internal circumferentially extending rib 17 which is adapted to engage in the thread of the spark plug terminal to more securely hold the parts together.

The split in the linings is placed at slots or recesses in the rubber, so that by pressing at these points the sections may be separate when desired for any purpose. The linings are vulcanized in place. It will be understood that the conductor is cemented or otherwise secured in the protector. With the conductor so secured, it will be evident that when the protector is placed on the spark plug there is no possibility of the bare hand touching the parts to cause shock.

The metal lining insures a connection between the terminal and the conductor over a wider area than would be the case if such lining were omitted. Furthermore, the parts are conveniently attached and detached, and no tools are necessary.

I claim:—

A combined connector and protector for

spark plugs and the connections comprising a member of resilient insulating material composed of two portions extending at an angle with respect to each other and cored 5 to fit closely and receive the end of the plug and the connection, each cored portion having a reduced axial extension at its inner end and said extensions communicating to permit the connection to touch the terminal of the plug within the protector, the reduced 10 portion for the plug terminal having a metal liner which is sectional to permit it to be expanded and which has an internal circumferentially extending rib for the purpose specified.

EDMUND HERBERT WEBER.