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TERMINAL TESTING UNIT FOR SPARK PLUGS

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Fig. 1.

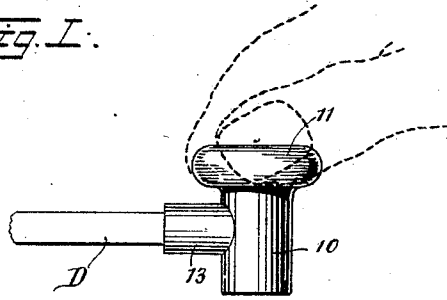


Fig. 2.

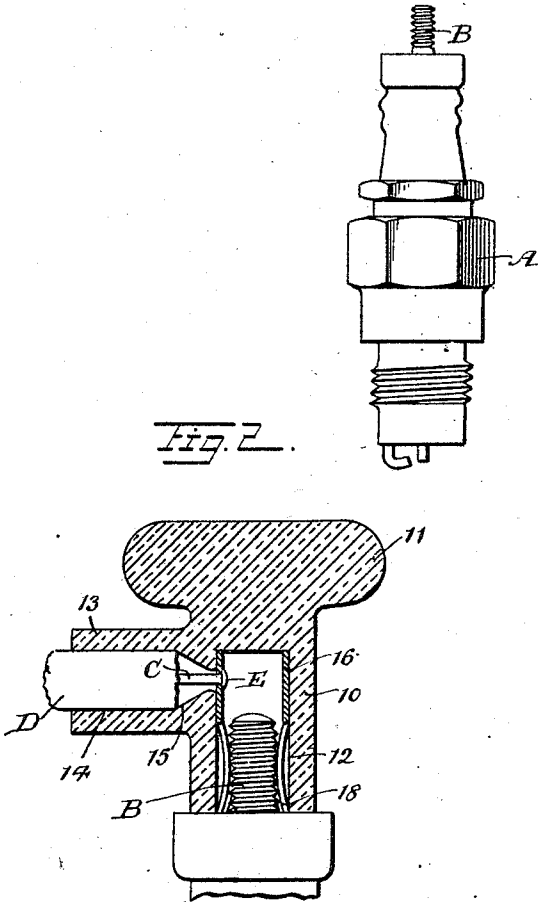
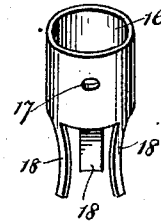


Fig. 3.



WITNESSES

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TERMINAL-TESTING UNIT FOR SPARK PLUGS.

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This invention relates to accessories for spark plugs and has particular reference to a separable terminal unit by means of which the testing of a spark plug with the motor running is greatly facilitated.

More specifically, the invention comprehends a device for facilitating the testing of spark plugs, which consists of an insulated terminal unit to which the conductor wire is attached, said unit being provided with means for establishing detachable frictional electrical connection between the binding post or central electrode of the plug and conductor wire to afford an insulated grasping means for conveniently effecting the removal, testing, and replacement of the unit with the motor in operation, while precluding any shock or injury to the person conducting the test, and, further, eliminating the necessity of using tools or other instruments for such purposes.

The invention furthermore comprehends a terminal unit of the character set forth which is extremely simple in its construction, inexpensive to manufacture, and which is highly efficient in its purpose.

With the above recited and other objects in view, reference is had to the following specification and accompanying drawings in which there is exhibited one example or embodiment of the invention which is in no way intended as a limitation upon the scope of the appended claims as it is to be clearly understood that variations and modifications which properly fall within the scope of said claims may be resorted to when found expedient.

In the drawings—

Figure 1 is a side view of a spark plug equipped with a terminal unit constructed in accordance with the invention and illustrating the same disconnected and spaced from the plug to accomplish the testing operation;

Fig. 2 is an enlarged fragmentary vertical sectional view of the unit applied to the plug binding post or central electrode;

Fig. 3 is a perspective view of the inner binding post gripping and conductor element removed from the terminal unit.

Referring to the drawings by characters of reference, A designates a spark plug of any ordinary construction, which is provided with the usual upwardly projecting threaded stem B constituting the central

electrode and serving as a binding post. In lieu of placing the terminal C of the conductor wire D over the stem B and employing a binding nut to clamp the same in place as is the common practice, the present invention comprehends the use of a terminal unit for the purpose of removably connecting the conductor wire terminal with the binding post so as to facilitate the testing of the plug without the use of tools.

The terminal unit constituting the present invention, consists of a body 10 constructed of an insulating material and having an enlarged grasping head 11 at one end. At its opposite end the body is provided with an inwardly extending bore 12 of a length exceeding the length of the threaded stem or binding post B, and of a diameter greater than the diameter of said stem. The body 10 is further provided with a laterally projecting tubular boss or arm 13, the bore 14 of which is of a diameter to snugly receive the insulated conductor D. The bore 14 is constricted at its inner end, as at 15, and the constricted portion of the bore communicates with the bore 12 of the main body 10. Within the bore 12, a sleeve-like element 16 is fitted, the said element having an aperture 17, which is designed to aline with the constricted portion 15 of the bore 14 so as to receive the uninsulated terminal C of the conductor wire D, after which the extremity of the wire terminal is upset or burred as at E, by the insertion of a suitable tool inserted through the bore 12. The sleeve-like element 16 is formed with circumferentially spaced inwardly arched, depending fingers 18 which may be produced by slitting the element 16 from its end and removing alternate portions between the slits. The element 16 is preferably of a resilient conducting material and when the fingers, which are bowed or arched inwardly, are in normal position, they are spaced apart a distance less than the diameter of the threaded stem B, so that when the bore 12 of the body 10 is positioned over the threaded stem B, a frictional gripping action will be set up to retain the unit in correlation to the spark plug, whereby the conductor wire is electrically connected with the plug.

When it is desired to test the plug, the unit is grasped and withdrawn from its frictionally connected relation to the stem B, as illustrated in Fig. 1, and properly spaced to produce a spark gap for accomplishing

the testing operation. It is obvious that this may be done with the motor running without fear of shock or injury to the person making the test, and it is clearly apparent
5 that the testing operation may be accomplished in a minimum of time and without the necessity of employing tools.

What is claimed is:

1. A terminal testing unit for spark plugs,
10 comprising a body of insulating material having an enlarged grasping head at one of its ends and a socket in its opposite end, and a frictional gripping element within the
15 socket electrically connected with the conductor wire and adapted to frictionally engage and maintain the unit electrically connected with the spark plug binding post, said element comprising a sleeve-like body
20 and annular inwardly bowed resilient fingers normally spaced apart a distance less than the diameter of the spark plug binding post, the body of said unit having a lateral tubular boss of insulating material having its
25 bore constricted at the inner end and communicating with the socket of the body, said boss adapted to receive the conductor wire with the terminal connected with said element, to establish an electrical connection

with and to retain said element within the socket of the body.

2. A terminal testing unit for spark plugs, comprising a body of insulating material having a socket in one of its ends, and a frictional gripping element within the socket electrically connected with the conductor
35 wire and adapted to frictionally engage and maintain the unit electrically connected with the spark plug binding post, said element comprising a sleeve-like body and annular
40 inwardly-bowed resilient fingers normally spaced apart a distance less than the diameter of the spark lug binding post, the body of said unit having a lateral tubular boss of insulating material having its bore constricted at the inner end and communicating
45 with the socket of the body, said boss adapted to receive the conductor wire with the terminal connected with said element, the said element having an aperture adapted to register with the constricted end of the bore of
50 the boss to receive therethrough the conductor wire terminal, the protruding extremity of which terminal is upset to retain the same in place and to lock the element in the socket of the body.

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