

V. C. DE YBARRONDO.
SPARK PLUG.
APPLICATION FILED FEB. 27, 1908.

973,464.

Patented Oct. 18, 1910.

Fig. 1.

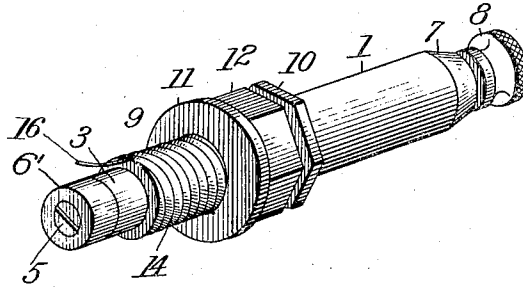


Fig. 2.

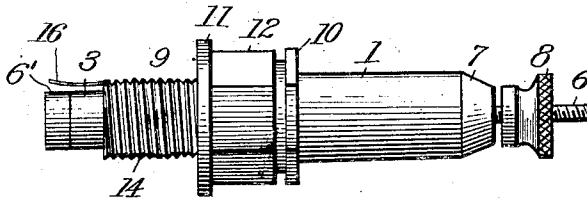
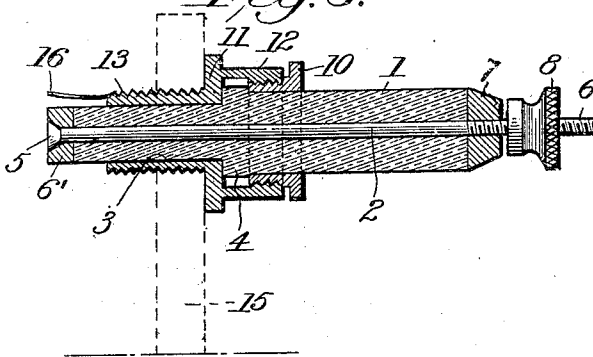


Fig. 3.



Inventor.

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Witnesses.

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UNITED STATES PATENT OFFICE.

VINCENT C. DE YBARRONDO, OF LOS ANGELES, CALIFORNIA.

SPARK-PLUG.

973,464.

Specification of Letters Patent. Patented Oct. 18, 1910.

Original application filed May 20, 1907, Serial No. 374,794. Divided and this application filed February 27, 1908. Serial No. 418,088.

To all whom it may concern:

Be it known that I, VINCENT C. DE YBARRONDO, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Spark-Plugs, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to improvements in spark plugs, and has for its object, the peculiar construction of a plug comprising a minimum number of parts, which is comparatively inexpensive to manufacture and efficient in operation.

This is a divisional application of the original application filed May 20, 1907, Ser. No. 374,794, covering an electrical igniting device for gas stoves.

Another object of the invention is the construction of a spark plug, which can be quickly mounted upon a suitable support and be used in connection with a gas stove, or a sparking device in connection with a gas engine in a stationary power plant, or upon a motor vehicle.

With these and other objects in view, the invention consists of certain novel constructions, combinations, and arrangements of parts, as will be hereinafter fully described and claimed.

In the drawings: Figure 1 is a perspective view of a spark plug constructed in accordance with the present invention. Fig. 2 is a view in side elevation of a spark plug constructed in accordance with the present invention. Fig. 3 is a longitudinal, sectional view of the spark plug.

Referring to the drawings by numerals, 1 designates an insulating member provided with a longitudinally-extending aperture or opening, in which is normally positioned the body of a screw 2. The body of the insulating member is reduced in diameter, as at 3, and contiguous to the inner end of the reduced portion 3, is a projection 4 formed, preferably, annular in shape.

The screw or metallic-member 2 (constituting a part of the metallic circuit when the spark plug is in use) is provided with a grooved or slotted head 5 and a threaded portion 6. Interposed between the head 5 and the front end of the insulating member 1, is a metallic disk or plate 6'. The slotted head 5 is positioned entirely within the disk

6'. Mounted upon the screw 2, near one end, or upon the threaded end 6, is a metallic-member or disk or plate 7, which engages the rear end of the insulating member 1. A thumb-nut or rotatable locking member 8 is threaded upon the portion 6 of the screw, and is adapted to clamp a metallic-member, for instance, a piece of wire, between its inner end and the outer end or face of the metallic member or disk 7, when it is desired to attach the wire to the spark plug for completing a circuit. The insulating member 1 may be formed of any suitable material, as for instance porcelain, mica, or the like.

I have provided means for mounting the insulating member 1 upon a support, and said mounting means comprises the projection or enlarged portion 4, together with a primary member 9 and an auxiliary member 10. The primary member 9 comprises, preferably, an annular body-portion 11 having a primary sleeve 12 and an auxiliary sleeve 13 extending in opposite directions therefrom. It will be noted that the sleeves 12 and 13 are integrally connected at their inner ends. The primary portion 12 is provided with an internal screw-threaded surface engaging a similarly-constructed surface upon the outer face of the auxiliary member 10. The auxiliary portion 13 is provided with a screw-threaded outer face or surface 14. The portion 13 is adapted to be threaded into an aperture in any suitable support; the support being indicated by dotted lines 15, Fig. 3. Prior to the threading of portion 13 into the aperture of a support, it is desirable to place the primary member 9 upon the insulating member 1, and cause the body 11 to abut or engage the extension or projection 14, and then place the auxiliary locking member 10 upon the body portion of the insulating member, and thread the same into the primary member, for causing the inner end of the auxiliary locking member to engage one side of the extension or projection 4, whereby the primary and auxiliary members 9 and 10 are normally secured together, thereby preventing the primary member from being displaced or removed off of the insulating member, whereby, when the portion 13 is threaded upon the support, the spark plug will be secured thereon.

From the foregoing description, it will

be obvious that I have provided an insulating member or body having means extending therethrough for conducting a current, and mounted upon said body are parts or members of a device for holding the insulating member upon its support, and said parts or members of the holding-device constitute interlocking holding-means, or members, one overlapping the other.

My spark plug can be quickly secured upon a support, and owing to the small number of parts, the same can be easily assembled, prior to the mounting of the same upon said support, or if it is desired, the member 9 may be first fastened or threaded upon a support and then the insulating or inner member or body 1 inserted into the hollow support-engaging member 9, and, subsequently, the auxiliary, annular, interlocking member 10 can be placed upon the body of the insulating member, and threaded into a portion of the primary member which was first mounted upon the support.

When the spark plug is used upon automobiles or gas engines, and the like, the spark-gap will be between the platinum-wire 16 and the metallic end-piece or disk 6; the platinum-wire 16 is securely fastened to the primary member 9.

By reason of the disk 6' being provided with the seat for the slotted head 5, it will

be noted that the outer face of the head is flush with the outer face of the disk, thereby preventing any foreign object from coming in contact with the head and injuring the device, besides the head will permit of the tool, as for instance, a screw-driver, to be quickly used when it is desired to tighten the wire between the disk 7 and the clamp nut 8, thereby making a very efficient and secure connection at the inner end of the device.

What I claim is:

In a spark plug, an insulating sleeve, a renewable terminal comprising a disk having a countersunk opening formed therethrough, and a rod removably held in said sleeve and terminal and having a head lying wholly within the countersink, the end of said head being flush with that face of the disk which is exposed to the flame of explosion when the spark plug is in use, removable means on said rod to secure the same in the sleeve, and other means to secure said spark plug to a support.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

VINCENT C. DE YBARRONDO.

Witnesses:

MISS E. DE YBARRONDO,
L. F. DOOLITTLE.