June 22 , 1926. 1,590,022

H. GROSSER ET AL

SPARK PLUG

Filed Jan. 29, 1925

Fig.1.

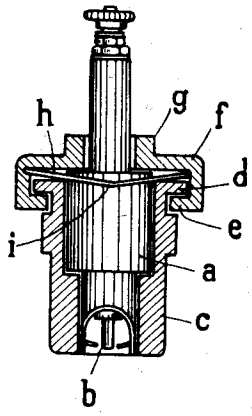


Fig.2.

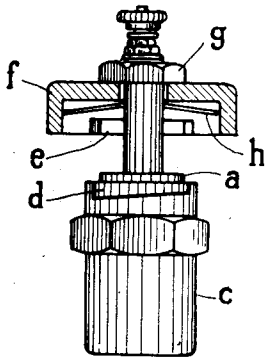


Fig.3.

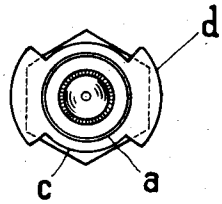
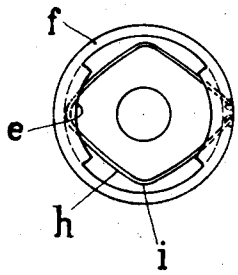


Fig.4.



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UNITED STATES PATENT OFFICE.

HERMANN GROSSER AND FRANZ GROSSER, OF DENSTEDT, GERMANY.

SPARK PLUG.

Application filed January 29, 1925, Serial No. 5,590, and in Germany November 8, 1924.

This invention relates to the fixation of spark plugs. The spark plugs commonly used are arranged in cartridges adapted to be screwed in any convenient manner on the seats. When the ignition fails owing to choking of the spark plug or for other reasons the screw connection has to be loosened. This is rather difficult and requires much time, as the threads stick and the iron parts being hot the hands of the operator are easily burnt. The removing of the cartridge requires more or less time in accordance with the number of threads.

According to the invention only one manipulation is required for removing the cartridge as the cartridge is locked on the holder by a cap fixed on the holder by a bayonet joint. The cap has at the lower edge an inwardly directed horizontal flange cut away at two opposite points and the holder has at its upper edge an outwardly directed flange cut away at two opposite points. In the cap a square wire spring is inserted. The two opposite corners of this wire spring which are situated over the flanges of the cap are bent upward and the two other corners are bent downward so that they are pressed upon the two opposite portions of the flange of the holder when the bayonet joint is closed, the spring being thus put under tension and the cap securely held in the closed position. When the cap is rotated to disengage the extensions of the cap from under the flaps of the holder the upwardly directed corners of the spring will exert a pressure upon the cap in upward direction so that the removing of the cap is facilitated.

This mode of fixation presents further the advantage that the spark plug cartridge can have a cylindrical shape whereby the manufacturing of the cartridge and of the spark plug is simplified and rendered cheaper.

An embodiment of the invention is illustrated by way of example on the accompanying drawing, in which:

Fig. 1 is a longitudinal section.

Fig. 2 is a side elevation, the cap lifted off the cartridge being shown in section.

Fig. 3 is a plan view of the cartridge without cap.

Fig. 4 shows the cap seen from below.

The cartridge *a* of the spark plug *b* is cylindrical and mounted in a holder *c*. A cap *f* having an angular head *g* serves to securely fix the cartridge *a* in the holder *c*. With this object in view the holder has a horizontal outwardly directed flange at its upper edge said flange being cut away at two opposite points so that two opposite extensions *d* are formed. The cap *f* has at its lower edge an inwardly directed flange which is cut away at opposite points so that two opposite inwardly directed extensions *e* are formed. The cap is fixed in the holder by means of the bayonet joint formed by the extensions *d* and *e*.

In the cap *f* a square wire spring *h* is located which has two opposite corners bent in upward direction the two other corners *i* of the spring being bent down so that they project into the gaps between the extensions *e*. When the cap *f* is placed on the holder the downwardly turned corners *i* of the spring *h* bear upon the outwardly directed extensions *d* of the holder so that when the cap is pressed down and rotated to close the bayonet joint the spring *h* is put under tension and the cap is strongly pressed upon the holder. When the cap is rotated in opposite direction to open the bayonet joint the cap is lifted by the pressure of the spring *h* as soon as the extensions *e* of the cap register with the gaps between the extension *d* of the holder, the removal of the cap being thus facilitated.

We claim:—

An improved spark plug holder comprising in combination a cylindrical holder for the spark plug, an outwardly directed horizontal flange at the upper edge of said holder said flange being cut away at two opposite points so that two horizontal extensions are formed, a cap having a perforated head through which said spark plug projects, an inwardly directed horizontal flange at the lower edge of said cap said flange being cut away at two opposite points so that two horizontal extensions are formed which together with the extension of the holder form a bayonet joint, and a square wire spring inserted in said cap said wire spring having two opposite corners bent up and two other corners bent down said bent down corners projecting into the gaps between said horizontal extensions at the lower edges of said cap substantially as described and shown and for the purpose set forth.

In testimony whereof we affix our signatures.

HERMANN GROSSER.
FRANZ GROSSER.