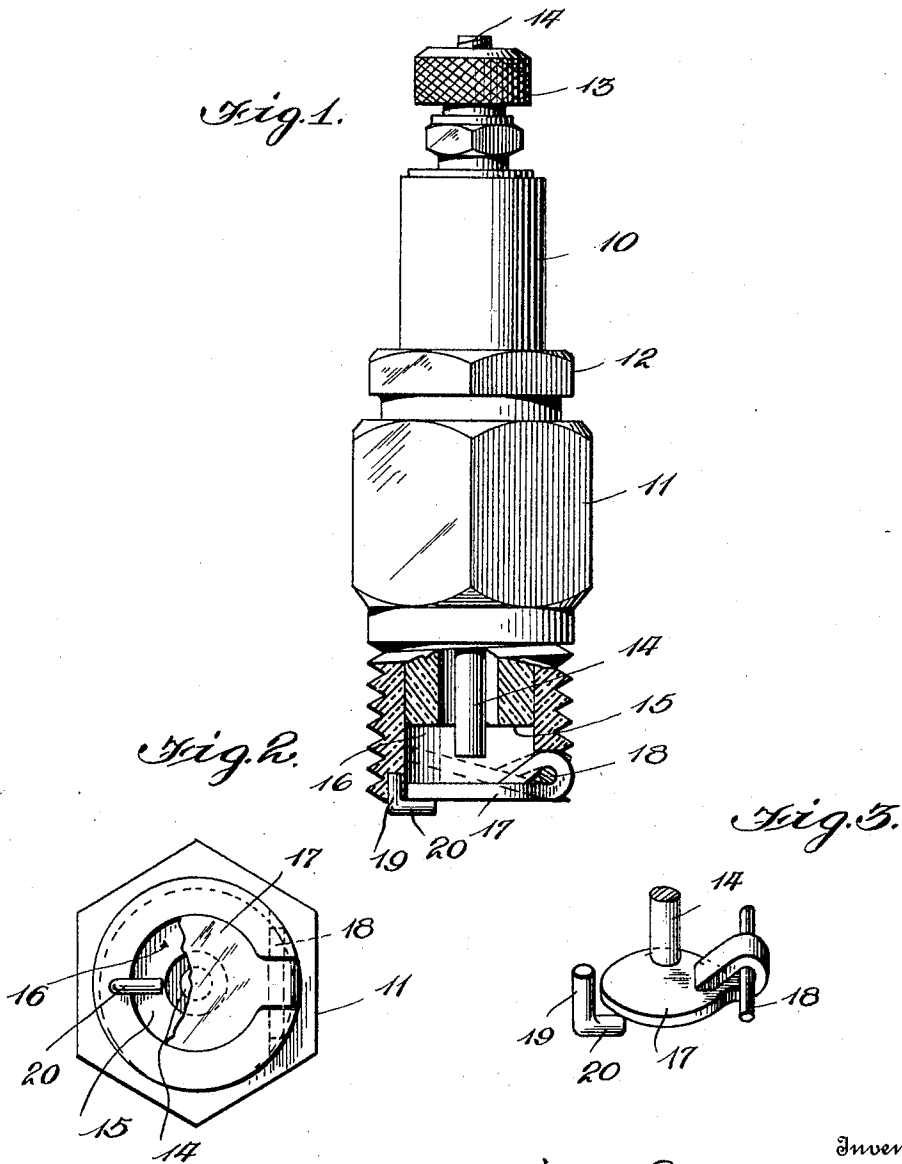


M. J. DI GIACOMA.
SPARK PLUG.
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SPARK-PLUG.

1,401,151.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, MICHAEL J. DI GIACOMA, a citizen of the United States, residing at Wilmington, in the county of New Castle and State of Delaware, have invented certain new and useful Improvements in Spark-Plugs, of which the following is a specification.

This invention relates to spark plugs and has as an object the provision of a plug which will prevent oil and carbon from gathering on the portions of the metal which comprise the spark gap.

An illustrative embodiment of the invention is shown in the accompanying drawing, in which—

Figure 1 is a side elevation, partly in section, to show the interior structure;

Fig. 2 is a bottom plan view, partly broken away;

Fig. 3 is a detail perspective view of the spark gap mechanism.

The plug comprises the usual insulating element 10 and shell 11, the insulating element 10 being retained in the shell by the usual clamping nut 12. The binding screw 13 and the central electrode member 14 are also formed after the usual practice.

The insulating element 10 is shown as terminating at 15, at a point above the lower threaded end of the shell 11 and the central electrode 14 as projecting a short distance below the end 15 of the insulating element.

To close the lower end of the chamber thus formed at 16 a disk 17 is hinged upon a pintle at 18, passing through the walls of the shell 11, as more clearly shown by the dotted lines in Fig. 2. The disk 17 forms a loose fit in the open end of the shell 11, so as to permit the gases to pass into the chamber 16.

To prevent the disk 17 from swinging outwardly beyond the end of the shell a stop member 19 formed of a piece of wire is inserted into an opening in the end of the wall of the shell 11 and its projecting portion is turned at an angle, as at 20, upon which projecting portion the disk 17 may rest.

When the gases are compressed in the cylinder into which the spark plug projects the disk will be forced upwardly into the

dotted line position shown in Fig. 1. At this time there would be no current flowing into the electrode 14 and therefore no short circuit will occur between the electrode 14 and the disk 17. As the compression ceases at the end of the compression stroke the disk 17 will drop by gravity to its normal position, and when the spark is formed it will jump from the end of the electrode 14 to the center of the disk 17, igniting the gases in the chamber 16, and through the space around the edge of the disk gases in the cylinder will also be ignited.

The continual motion of the disk 17 coming in contact with the electrode and the firing of the charge of gas in the chamber 16 will keep the sparking substances substantially free from carbon deposit, the more so as oil can not attain ready access to the chamber 16.

It will be seen that there is provided a simple and effective plug having adequate means to prevent fouling of the sparking substances.

Minor changes may be made in the physical embodiment of the invention, which is limited only by the scope of the appended claims.

I claim:

1. A spark plug comprising a shell, a chamber in the lower end thereof, a central electrode projecting into said chamber, a disk hinged to the wall of said chamber forming a loose fit therewith, a stop member secured to the end of said shell and projecting below said disk to prevent the same from swinging outwardly beyond said shell.

2. A spark plug comprising in combination a shell, an insulating member terminating above the lower end of said shell providing a combustion chamber, a central electrode projecting into said chamber, a disk hinged to the wall of said chamber and adapted to swing inwardly into contact with the end of said electrode upon expansion of gases in the engine cylinder, and a stop member to prevent the disk swinging outwardly beyond the end of said shell.

In testimony whereof I affix my signature hereto.

MICHAEL J. DI GIACOMA.