

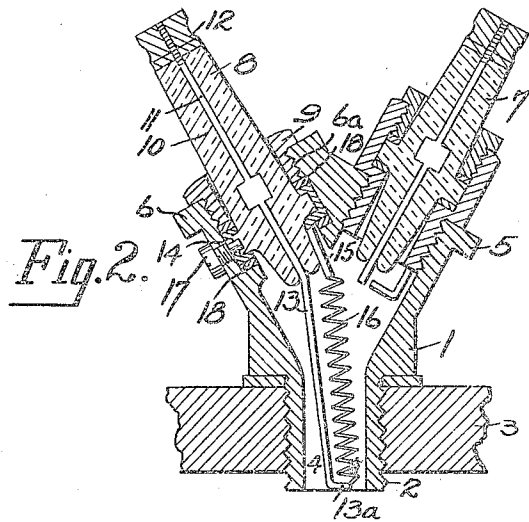
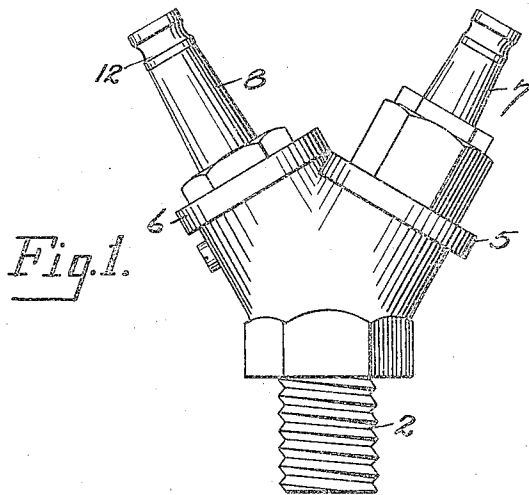
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HEATED SPARK PLUG HOLDER

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HEATED SPARK-PLUG HOLDER

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This invention relates to improvements in heated spark plug holders, and refers more particularly to a spark plug holder having a removable heater therein.

5 It is, of course, well known that numerous types of spark plugs have been placed on the market from time to time with heating coils within or around them. Such constructions, however, provide means for heating only a very small proportion of the vaporized mixture to be ignited and that to only a slight extent.

10 It is an object of this invention to provide a heated spark plug holder wherein means are provided for heating a relatively large proportion of the vaporized mixture to a relatively high temperature, and thus to render the possibility of misfiring when the engine is cold far more remote.

15 Another object of the invention is to provide a heated spark plug holder consisting of a main passage and branches extending therefrom, one of which is adapted to support a spark plug, and the other to hold the removable heater, the element of which extends through substantially the whole of the main passage.

20 A further object of the invention is to provide a heated spark plug holder wherein the heating element is spaced sufficiently far from the spark gap to eliminate the possibility of the element being damaged by heat from the spark.

25 With these and other objects and advantages in view, which will become apparent as the specification proceeds, the invention is hereinafter more fully described with the aid of the accompanying drawings, in which:

30 Figure 1 illustrates a side elevation of the invention, and

Figure 2 is a sectional view showing the invention supporting a spark plug in place in a cylinder, one wall of which is shown.

35 Referring to the drawings, 1 designates a fitting threaded at 2 for insertion in a cylinder one wall of which is indicated at 3. The fitting has a main passage 4 therein which opens at one end into the cylinder and terminates at its opposite end in two branches 5

and 6. The branch 5 is internally threaded to receive any conventional spark plug 7.

In the branch 6 a heating member 8 is arranged which is held in place as by an externally threaded sleeve 9 in engagement with a threaded portion 6a of the bore of the branch 6.

55 The heating member body 10 is made of porcelain or other insulating material and has a connection 11 extending longitudinally through it which terminates at the outer end of the body in a terminal 12, and at the inner end in an arm 13 which projects beyond the said body and usually is inclined at an angle thereto. Around the body 10 towards its inner end an annular band 14 of conducting material is secured, and from it a lug 15 extends beyond the inner end of the body and supports one end of a heating element 16. The opposite end of the latter is secured to the outer extremity 13a of the arm 13 which is flexed substantially at right angles to the said arm so that the arm and element lie substantially parallel with but spaced from one another. Moreover the inclination of the arm relative to the body is such that the former lies substantially longitudinally of the passage 4.

60 Through the branch 6 a screw 17, or other fastening means projects which extends through the band 14 and into a recess formed in the body 10 so that both the latter are held against rotation. The terminal 12 is suitably connected to the positive side of a source of energy—not shown—and the ground connection for the negative side of the heating element 16 is made through the band 14 and washers 18 around the latter which bear against the bore of the branch 6 which is usually made of conducting material and grounded to the engine block on which it is mounted.

65 Owing to the fact that the heating element 16 extends longitudinally through substantially the full length of the passage 4 into which vaporized mixture is forced during the compression stroke, and also owing to the relatively large volume of the said passage it will be seen that a considerable proportion of the explosive mixture to be fired comes into contact with the heating element.

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While in the foregoing the preferred embodiment of the invention has been described and shown, it is understood that the construction is susceptible to such alterations and modifications as fall within the scope of the
5 appended claims.

What I claim as my invention and desire to secure by Letters Patent is:

As a new article of manufacture, a spark
10 plug holder consisting of a fitting one extremity of which is adapted to be secured to a cylinder, said fitting being provided with two branches, a removable heater extending through one branch and into the body of the
15 fitting, and a second branch adapted to receive a spark plug in such a manner that the latter may be removed therefrom, said second branch being so positioned that the terminals of the spark plug will lie adjacent
20 the main body of the fitting at its extremity remote from the cylinder so that fuel passing from the cylinder to the spark plug passes adjacent the heater before reaching said plug.

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