F. F. THOMASSON.

SPARK PLUG.

APPLICATION FILED APR. 24, 1917.

1,298,601. Patented Mar. 25, 1919.

Fig. 1.

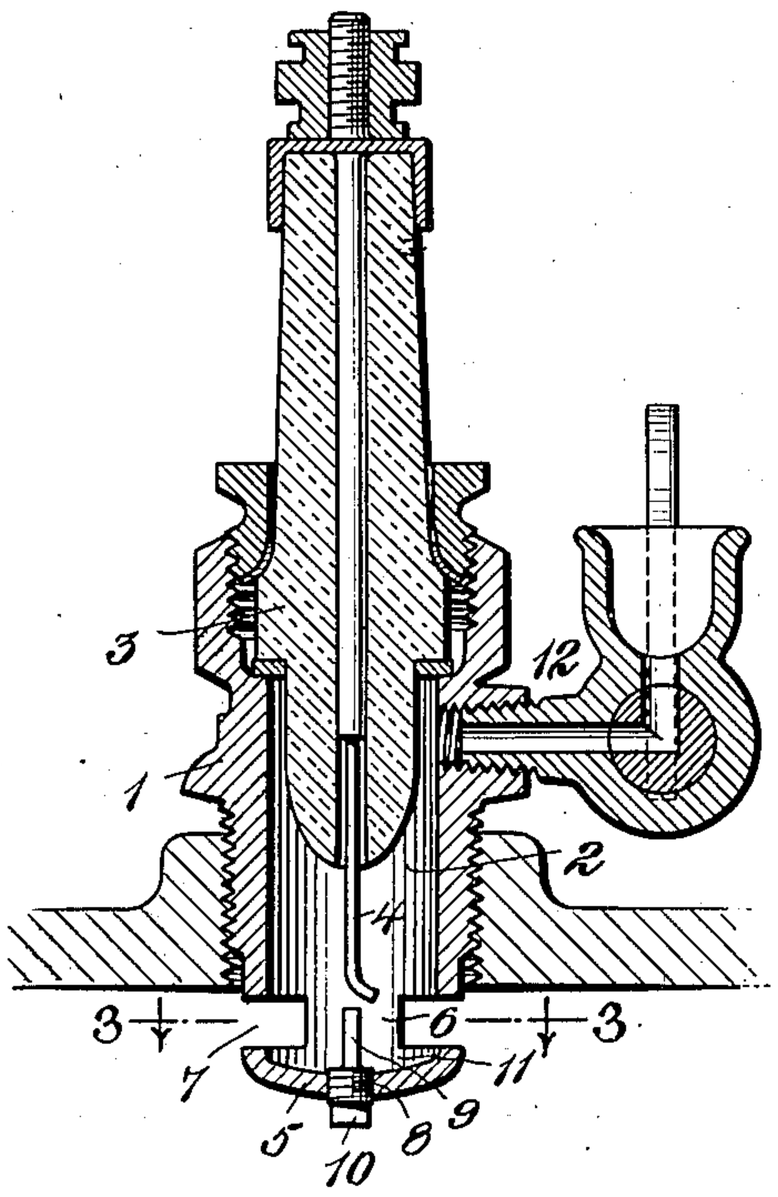


Fig. 2.

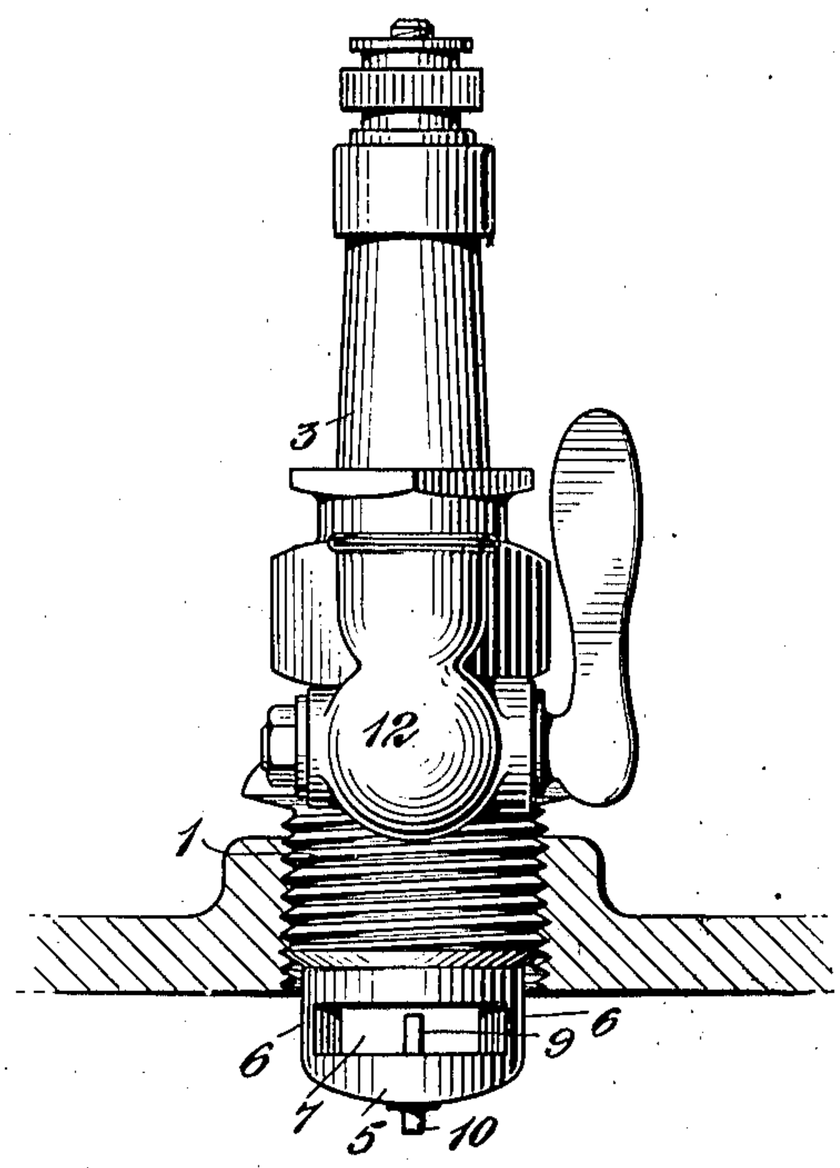
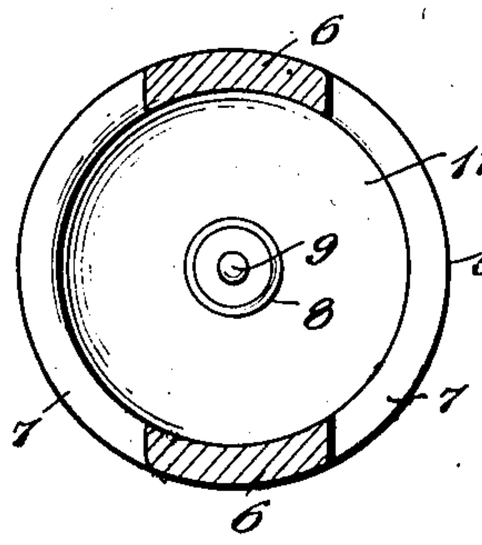


Fig. 3.



WITNESSES

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SPARK-PLUG.

1,298,601. Specification of Letters Patent. Patented Mar. 25, 1919.

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To all whom it may concern:

Be it known that I, FREDERICK F. THOMASSON, a citizen of the United States, and a resident of the city of Boise, in the county of Ada and State of Idaho, have invented a new and Improved Spark-Plug, of which the following is a full, clear, and exact description.

This invention relates to an ignition device for internal combustion engines, and has to deal particularly with a jump spark plug.

The invention has for its general objects to improve the construction of devices of this character so as to be reliable and efficient in use, and comparatively simple and inexpensive to manufacture, and so designed as to insure ready ignition of a priming charge of gasolene, as well as to enable the electrodes to be readily adjusted to obtain the proper spark gap.

A more specific object of the invention is the provision of a spark plug which is formed with a head at its inner end that performs the double function of acting as a shield to prevent lubricant from being thrown on the electrode, and to act as shallow pan to receive a priming charge of gasolene whereby such charge is held in close proximity, say $\frac{1}{8}$ inch, to the igniting spark.

Further specific objects are to so arrange one of the electrodes that it can be easily adjusted or renewed by being screwed into the head of the spark plug, and the other electrode has its sparking point bent laterally so that oil collected on such electrodes will drip therefrom at a point to one side of the other electrode, so that there is no danger of a short circuit connection being formed between the electrodes.

With such objects in view, and others, as will appear as the description proceeds, the invention comprises the various novel features of construction and arrangement of parts, which will be more fully described hereinafter, and set forth with particularity in the claims appended hereto.

In the accompanying drawings, which illustrate one embodiment of the invention and wherein similar reference characters are employed to designate the corresponding parts throughout the several views,

Figure 1 is a central vertical section of the spark plug.

Fig. 2 is a side view thereof.

Fig. 3 is an enlarged section on the line 3—3 Fig. 1.

Referring to the drawing 1 designates the shell or body of the electrode which has a chamber 2 in which is clamped the porcelain bushing 3 that carries the central electrode 4. The inner end of the shell or body 1 is formed with a head 5 united with the shell by oppositely disposed connecting portions 6, so that between the connecting portions 6 ports 7 will be provided for permitting the compressed gas to enter the spark plug and the flame to pass out of the latter into the cylinder. The head 5 has a central threaded opening 8 in which is screwed the electrode 9, the lower end 10 of which is noncircular so that by means of a pair of pliers the bottom electrode can be adjusted with respect to the upper electrode 4 for obtaining the right spark gap, and furthermore the lower electrode can thus be easily removed for cleaning or renewal.

The head 5 performs two functions in addition to acting as a support for the electrode 9. The inner surface of the head is concave so as to constitute a pan 11 out of which rises the electrode 9. This pan serves to retain a charge of priming gasolene and hold it in close proximity to the spark, the gasolene being supplied through an ordinary priming device 12 attached to the side of the spark plug. The other function of the head is the protection it affords against lubricant from being thrown on the electrodes by the reciprocation of the engine piston.

Lubricant is likely to collect on the upper electrode by being carried with a vaporized fuel into the spark plug, and in order to prevent a short circuiting drop of lubricant to form between the electrodes when the engine is idle, the upper electrode has its lower end bent laterally so as to be out of vertical alinement with the lower electrode, and consequently lubricant will drop off the upper electrode at a point to one side of the lower electrode so that the spark gap will be maintained clear.

From the foregoing description taken in connection with the accompanying drawings, the advantages of the construction and method of operation will be readily understood by those skilled in the art to which the invention pertains, and while I have described the principle of operation together with the apparatus, which I now consider to be the best embodiment thereof, I desire to have it understood that the apparatus

shown is merely illustrative and that such changes may be made when desired as are within the scope of the appended claims.

Having thus described my invention I claim as new, and desire to secure by Letters Patent,

1. A spark plug comprising a body having a pan-shaped head at its inner end and provided with lateral ports, an electrode grounded on the head and disposed within the body at a point between the ports, an insulation bushing in the body, an electrode in the bushing and arranged in coöperative relation with the first-mentioned electrode to form a spark gap, and means for supplying a priming charge of fuel to the body for filling the said pan.

2. A spark plug comprising a hollow body having a pan-shaped head at its inner end and provided with lateral ports, an electrode carried by the pan and extending upwardly therefrom, with its upper end disposed between the ports and above the bottom of the latter, an insulation bushing in the said body, an electrode in the bushing and coöperating with the first-mentioned electrode to form a spark gap, and means for supplying a priming charge of fuel to the said pan.

FREDERICK F. THOMASSON.