Feb. 27, 1945. H. C. WHITTAKER 2,370,599

SPARK PLUG BREATHER

Filed Jan. 29, 1944

Fig. 1.

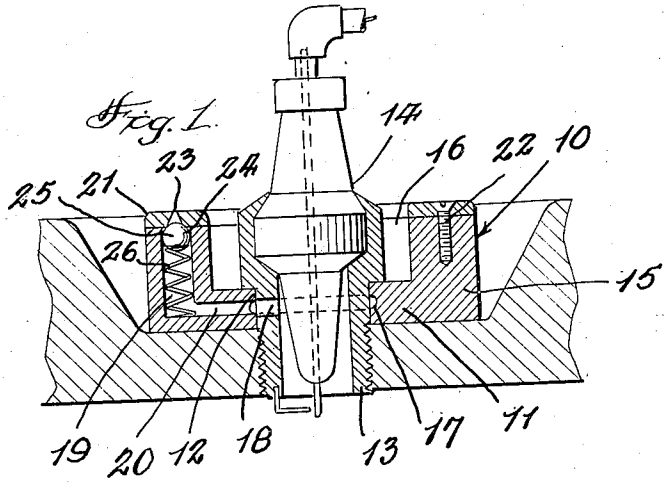
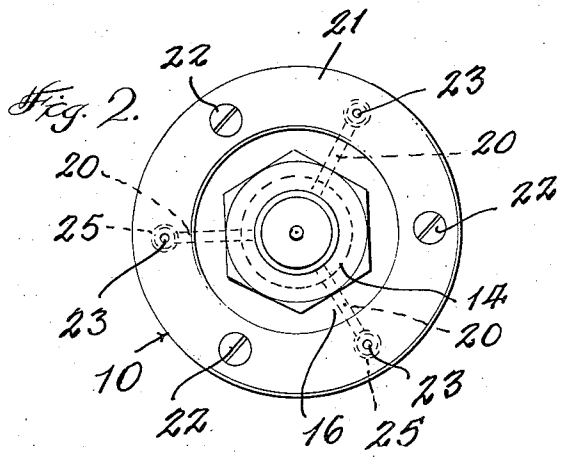


Fig. 2.



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SPARK PLUG BREATHER

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2 Claims. (Cl. 123—169)

This invention relates to a spark plug attachment, and it consists in the constructions, arrangements, and combinations herein described and claimed.

It is the cardinal object of the invention to provide an air feeding means which may be installed upon conventional spark plugs for the purpose of maintaining the electrodes of the plug in a cool condition, thereby reducing the burning of the electrodes, eliminating fouled points, and thus increase the efficiency of the motor.

More specifically, it is the object of the invention to provide a housing in which a plurality of valved air inlets are provided, constructed and adapted to feed air to points interiorly of the spark plug shell and past the electrodes, only on the intake stroke of the pistons of an engine.

It is also an object of the invention to provide a device of the character stated which embodies few parts, economical in construction and efficient in use.

Additional objects, advantages and features of invention will be apparent from the following description and accompanying drawing, wherein

Figure 1 is a vertical section through an air feeding device installed upon an engine, indicating its operative relation with respect to a spark plug.

Figure 2 is a top plan view thereof.

There is illustrated a cylindrical housing 10 having a planiform flat bottom 11, axially of which there is formed an annular opening 12 of a size to receive the threaded end 13 of a spark plug 14 therethrough. The bottom wall 11 is of substantial thickness and rising therefrom, a circumscribing wall 15 is formed, defining a centrally disposed well 16. The well has a diameter such as to readily admit a spark plug wrench for the purpose of installation or removal of a plug.

Medially of the wall of the opening 12 an annular groove 17 is formed adapted to register with a suitable number of apertures 18 drilled in the spark plug shell. The apertures 18 must be vertically located so that when the breather and plug are fully engaged in the spark plug opening of the engine, the groove 17 and apertures 18 will be in alignment.

A plurality of air inlet ports 19 are formed in the wall 15, three being shown in the present instance, extending in the same vertical plane as the wall, the lower ends of which communicate with respective lateral bores 20, which open upon the groove 17.

A sealing ring 21 is employed, of the same diameter as the housing 10 and the same width as the wall 15, held in a tight sealed fit with the wall by means of threaded bolts 22 engaged in threaded openings formed in the wall. The ring 21 is formed at points so as to register with respective bores 19, with air inlet ports 23, the undersides of which are formed with a valve seat 24 against which a ball valve 25 is urged by means of a helical spring 26.

In use, on the intake stroke of the motor, a suction is created in the apertures 18 of the plug as well as in the bores 19 and 20, thus unseating the ball valve 25, admitting air into the interior of the plug, which then passes downwardly around and against the electrodes, thus cooling and cleaning them.

In addition to maintaining the points clean and cool, the use of the device insures a more efficient motor as well as eliminating hard starting of the motor during wet weather, when considerable condensation occurs in the cylinders of the engine.

While I have shown and specifically described the device, this is by way of illustration only, and I consider as my own all such modifications in construction as fairly fall within the scope of the appended claims.

I claim:

1. Means for admitting air to the electrodes of a spark plug comprising a housing having a medial opening for reception of a spark plug, the wall of the opening having an annular groove for registry with openings formed in the shell of the spark plug and ports formed in the housing establishing communication between the atmosphere and the annular groove.

2. Means for admitting air to the electrodes of a spark plug comprising a housing having a medial opening for reception of a spark plug, the wall of the opening having an annular groove for registry with openings formed in the shell of the spark plug, ports formed in the housing establishing communication between the atmosphere and the annular groove, and valve means for controlling admission of air into said ports.

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