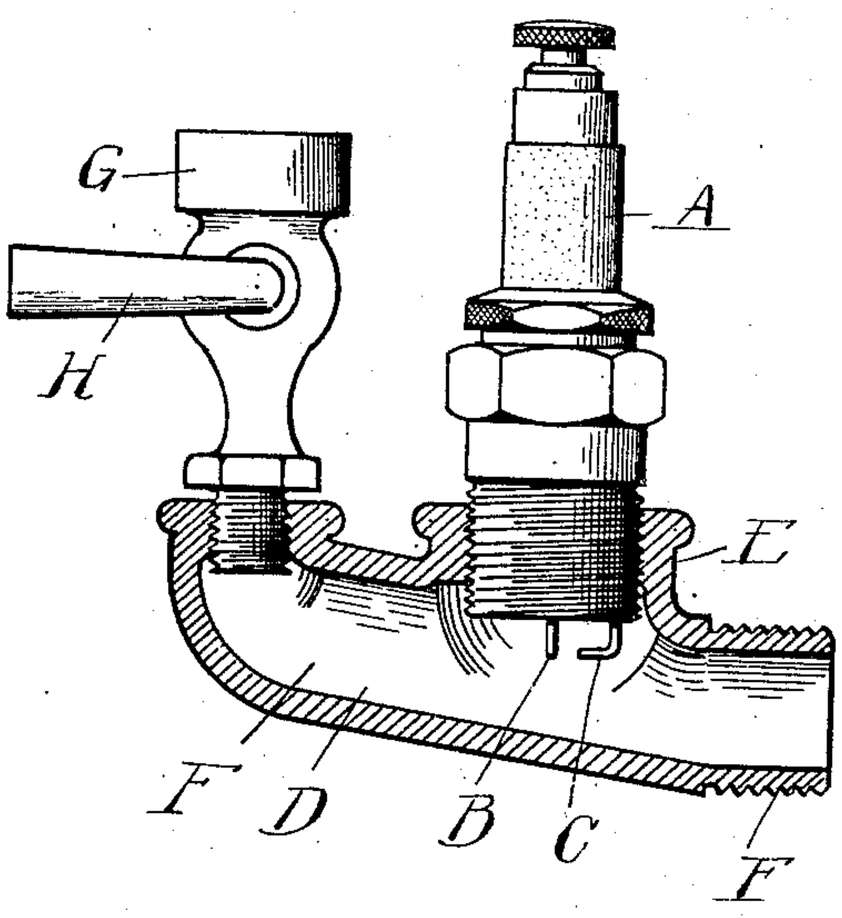
No. 891,552. PATENTED JUNE 23, 1908.

C. B. KING.

IGNITER.

APPLICATION FILED JUNE 9, 1906.



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IGNITER.

No. 891,552. Specification of Letters Patent. Patented June 23, 1908.

Application filed June 9, 1906. Serial No. 321,036.

To all whom it may concern:

Be it known that I, CHARLES B. KING, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Igniters, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to igniters particularly designed for use on explosion engines, and consists in the novel construction as hereinafter set forth.

In the drawings, my improvement is illustrated in sectional elevation.

It is one of the objects of the invention to protect the electrodes of the igniter from being fouled with soot from an explosion; further to protect them from the intense heat, and also to insure the presence of explosive mixture in the spark cap whenever the igniter is operated.

It is also an object to provide means for causing a more rapid ignition of the entire explosive charge from the electric spark, and to provide means for priming where necessary.

A is a spark plug of any suitable construction, which is provided with separated electrodes B and C.

D is a casing having a threaded nipple E, with which the spark plug engages, and also a nipple F for engaging a threaded aperture in the engine casing. Thus, when the parts are in position, the electrodes B and C are removed from the engine cylinder but are in contact with the explosive mixture in the casing D, which is in constant communication with the cylinder.

With the device thus far described, when the explosive charge is compressed within the engine cylinder, a portion of the mixture will be forced into the casing D compressing any air or gas remaining from a previous explosion. If, however, the electrodes were located at the end of the pocket formed by the casing D, the air or products from a previous explosion trapped in said pocket might prevent access of a fresh charge to the spark cap. I have, therefore avoided danger of this by extending the casing D beyond the position of the electrodes to form the pocket or chamber F′, this being of sufficient capacity to receive all of the spent gas when reduced in volume by compression.

In addition to providing the pocket F′, the extension of the casing D is used for connecting a priming cup G. This may be of any suitable construction, provided with a valve H, by which a quantity of liquid hydrocarbon may be introduced into the casing for the purpose of priming.

In operation, the explosive charge, when compressed, will always enter the casing D as far at least as the spark cap. When ignited, the charge within the casing D will be projected by the force of the explosion into the gas within the cylinder, and thus will more rapidly ignite the entire charge, than where the spark cap is located within the cylinder.

It will be observed that the spark plug is entirely outside of the engine case, and thus is protected from the intense heat of the explosion; also the relatively large amount of radiating surface on the casing D, in comparison with the volume of the charge which it contains, will rapidly dissipate the heat from the explosion.

The casing D is preferably formed as shown with the inclined bottom, so as to provide drainage from the priming cup G to the nipple F. This will facilitate the introduction of oil into the cylinder. By reason of the fact that the nipple E, to which the spark plug is attached, extends upward; said plug is arranged in vertical position, with the electrodes projecting downward and out of the path of the oil introduced from the priming cup. This prevents danger of short circuiting when priming.

What I claim as my invention is:

1. An igniter comprising a casing having a nipple at one end for detachably engaging the engine cylinder and two upwardly extending nipples, a priming cup engaging the outer one of said upwardly extending nipples and a spark plug engaging the intermediate nipple.

2. An igniter comprising a casing having two upwardly extending nipples and a laterally extending nipple for engaging the engine

cylinder, said casing having an inclined bottom from the outer of said upwardly extending nipples to the laterally extending nipple, a priming cup engaging the outer one of said upwardly extending nipples and a spark plug engaging the other upwardly extending nipple.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES B. KING.

Witnesses:
JAMES P. BARRY,
NELLIE KINSELLA.