A. F. GROEBL.

COMBINED SPARK PLUG HOLDER AND PRIMING CUP.

APPLICATION FILED NOV. 14, 1910.

1,004,250. Patented Sept. 26, 1911.

Fig. 1.

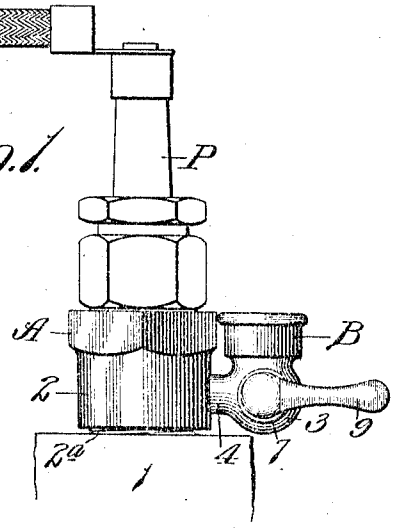


Fig. 2.

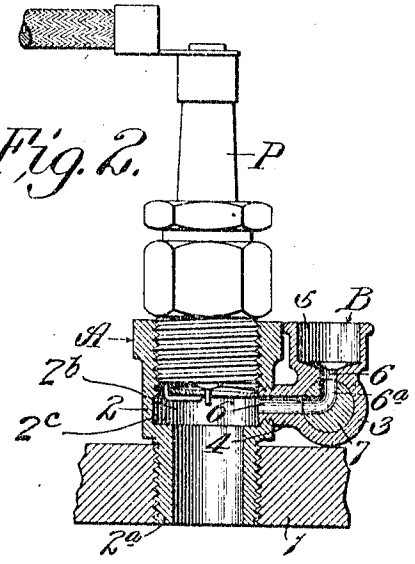
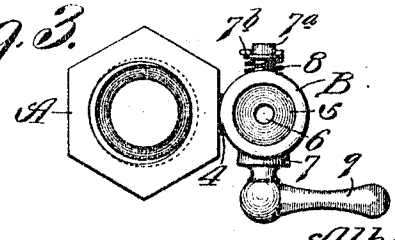


Fig. 3.



Witnesses:
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By Paul Bakewell Atty.

UNITED STATES PATENT OFFICE.

ALBERT F. GROEBL, OF ST. LOUIS, MISSOURI.

COMBINED SPARK-PLUG HOLDER AND PRIMING-CUP.

1,004,250. Specification of Letters Patent. **Patented Sept. 26, 1911.**

Application filed November 14, 1910. Serial No. 592,249.

To all whom it may concern:

Be it known that I, ALBERT F. GROEBL, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Combined Spark-Plug Holders and Priming-Cups, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to internal combustion engines.

One object of the invention is to provide a spark plug holder of novel construction that is adapted to be applied to engine cylinders which are not equipped with a priming cup. And another object is to provide a combined spark plug holder and priming cup which can be used with various kinds of spark plugs.

Figure 1 of the drawings is a side elevational view of my combined spark plug holder and priming cup; Fig. 2 is a vertical sectional view of same; and Fig. 3 is a top plan view of said device.

Referring to the drawings which illustrate the preferred form of my invention, 1 designates an engine cylinder, and A designates my combined spark plug holder and priming cup which is adapted to be screwed into the spark plug opening formed in the top of the cylinder. Said device consists of a member 2 provided at its upper end with an internally screw-threaded bore or chamber for receiving an externally screw-threaded spark plug P, and at its lower end with an externally screw-threaded reduced extension 2^a which is adapted to be screwed into the spark plug opening formed in the top of the cylinder. The internal bore of the extension 2^a communicates with the chamber in the upper part of the member 2 which receives the spark plug and is of less diameter than said chamber so that an annular shoulder or ledge 2^c will be formed at the lower end of said chamber, and, if desired, said chamber can be enlarged slightly at a point above said ledge, as indicated by the reference character 2^b in Fig. 2.

A fuel reservoir or priming cup B is provided for supplying fuel to the annular ledge or shoulder 2^c which is located inside of the spark plug chamber adjacent the contacts of the spark plug. The priming cup B may be formed in various ways and may either be integrally connected to the cylindrical-shaped portion 2 of the holder or detachably connected thereto. In the embodiment of my invention herein shown, the priming cup consists of a valve casing 3, a laterally projecting arm or discharge nozzle 4 on said casing which is screwed into the cylindrical-shaped portion 2 of the holder adjacent the chamber 2^b thereof, and a cup 5 on the valve casing 3 for receiving the fuel used to prime the cylinder. A duct 6 is formed in the casing 3 and in the discharge nozzle 4 thereon, as shown in Fig. 2, and a duct 6^a is formed in the valve 7 which is rotatably mounted in the casing 3 so as to permit the fuel in the cup 5 to flow into the cylinder when the valve is adjusted in the position shown in Fig. 2. A spring 8, which is arranged on the stem 7^a of the valve between the casing 3 and a stop 7^b on said stem, holds the valve seated, and a handle 9 is fastened to one end of the valve stem for enabling same to be turned easily so as to stop or start the flow of fuel into the cylinder. By referring to Fig. 2 it will be seen that the horizontal shelf or ledge 2^c which lies slightly below the fuel duct 6 receives and retains a film of fuel in close proximity to the firing pins of the spark plug, thus aiding in the ignition of the charge.

If it is desired to equip an engine with a priming cup, the spark plug can be removed from the cylinder and the device above described can be screwed into the opening from which the spark plug was removed, the spark plug being thereafter mounted in the cylindrical-shaped portion 2 of the device.

Any of the various types of spark plugs now on the market can be used with the device so that the owner is not limited or restricted to any particular make of spark plug and as the device is mounted in the usual spark plug opening in the cylinder, no expense is involved in applying the device to an engine.

The features above-mentioned are, of course the most desirable features of my device, but another desirable feature is that the contacts of the spark plug mounted in the device are not apt to become covered with soot and dirt owing to the fact that the cylindrical-shaped portion 2 which receives the spark plug is arranged outside of the cylinder of the engine instead of directly inside of same.

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

1. A combined spark plug holder and priming device, consisting of a member provided with a reduced externally screw-threaded extension which is adapted to be screwed into the spark plug opening in the top of the cylinder of an engine, an internally screw-threaded chamber arranged above and in vertical alinement with said reduced extension which is adapted to receive a spark plug, an annular shoulder at the lower end of said chamber, a fuel reservoir on said member provided with a discharge duct that terminates adjacent said shoulder so as to supply fuel thereto, and a rotatable valve for governing the flow of the fuel to said shoulder.

2. A combined spark plug holder and priming device, consisting of a member provided with an internally screw-threaded chamber which is adapted to receive a spark plug, a reduced extension on the lower end of said member which is adapted to be screwed into the spark plug opening in the top of the cylinder of an engine, said extension having an internal bore that communicates with said chamber and which is of less diameter than said chamber, thus forming an annular ledge or shoulder at the lower end of the chamber, a fuel reservoir on said member, a supply duct leading from said reservoir and entering the lower end of said chamber at a point in close proximity to the contacts of the spark plug and above said annular ledge, and means for controlling the supply of fuel from said reservoir into said chamber.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this tenth day of November 1910.

ALBERT F. GROEBL.

Witnesses:
WELLS L. CHURCH,
GEORGE BAKEWELL.