

F. A. GLASGOW.
 IGNITION DEVICE.
 APPLICATION FILED FEB. 17, 1910.

989,905.

Patented Apr. 18, 1911.

Fig. 1.

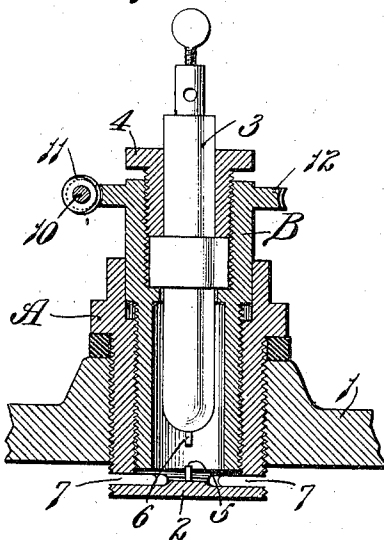


Fig. 2.

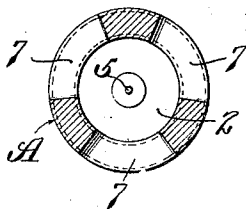
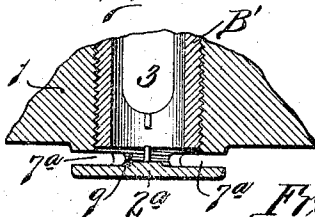


Fig. 3.



Witnesses:
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UNITED STATES PATENT OFFICE.

FRANK A. GLASGOW, OF ST. LOUIS, MISSOURI.

IGNITION DEVICE.

989,905.

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To all whom it may concern:

Be it known that I, FRANK A. GLASGOW, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Ignition Devices, 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 ignition devices such as are used on internal combustion engines.

One object of the invention is to provide an ignition device of simple construction which is so designed that the igniter can be removed without stopping the engine.

Another object is to provide an ignition device of improved construction that can be used as an auxiliary device and which is so designed that the igniter will not become covered with carbon or oil when the device is not in use.

Another object is to provide an ignition device of the character above described that comprises only a few parts and which can be manufactured at a low cost and applied easily to an engine. And still another object is to provide an ignition mechanism that comprises a plurality of ignition devices and means for simultaneously adjusting said devices to cause them to become operative or inoperative.

Figure 1 of the drawings is a vertical sectional view of an ignition device constructed in accordance with my invention; Fig. 2 is a horizontal sectional view of that portion of the member A in which the openings 7 are formed; and Fig. 3 is a vertical sectional view of a modified form of my invention.

My improved ignition device comprises a tubular-shaped adjustable holder in which the igniter is arranged, and a cooperating stationary member that forms a closure for the inner end of said holder. The stationary member is provided with openings that permit the gas in the cylinder of the engine to enter the holder and thus be ignited by the igniter, and the igniter-holder is adapted to be moved relatively to said stationary member so as to close the ports or openings through which the gas enters the holder and thus permit the igniter to be removed without stopping the engine.

Referring to Fig. 1 of the drawings, 1 designates the wall of an engine cylinder, A designates a tubular-shaped member mount-

ed in said wall and provided with an end wall 2 that is located inside of the cylinder, and B designates an igniter-holder that is adjustably mounted in the stationary member A. A jump spark plug 3 or some other suitable igniter is clamped in the holder B by means of a nut 4, and the end wall 2 of the stationary member A is provided with a contact 5 that cooperates with the contact 6 on the spark plug to form a spark when said contacts are spaced apart, as shown in Fig. 1, and electric current is flowing through the conductor to which the contact 6 is connected.

A plurality of openings 7 are formed in the side wall of the member A adjacent the inner end wall of said member so that the gas in the cylinder of the engine can enter the chamber in which the spark plug is arranged and thus be ignited by the spark that forms between the contacts, and the igniter-holder B is so constructed that it can be moved inwardly so as to close the openings 7 through which the gas enters the spark plug chamber, and thus permit the spark plug to be removed while the engine continues in operation.

In the construction shown in Fig. 1 the holder B is provided with external screw-threads that cooperate with internal screw-threads on the interior of the member A, but it will, of course, be obvious that the holder and the member which carries same could be connected together in various other ways. The upper end of the holder can be knurled or provided with a non-circular head so as to enable it to be adjusted easily, and the member A is also provided with a non-circular head or knurled portion to facilitate screwing said member into the wall of the cylinder. When the igniter-holder is adjusted in the position shown in Fig. 1 the gas in the cylinder can flow freely into the spark plug chamber but when the holder is adjusted inwardly so that the inner end of same abuts against the end wall 2 of the member A the ports or openings 7 will be tightly closed. The spark plug can then be removed and cleaned or a new plug arranged in the holder without stopping the engine for when the end of the holder engages the end wall of the member A the spark plug chamber will be positively cut off from the cylinder of the engine.

Another advantage of such a construction

is that when it is used as an auxiliary ignition device, the igniter will not become covered with carbon or oil when the ports or openings 7 are closed, for when said ports are closed, the chamber in which the igniter is arranged is completely cut off from the cylinder of the engine.

An ignition device of the construction above described can be manufactured at a low cost in view of the fact that it is not provided with valves or valve seats which require a great deal of machine-work and the simplicity of the device also adds greatly to its commercial value because it can be installed easily and it is not apt to get out of order.

While I prefer to use a member A that is separate and distinct from the wall of the cylinder for closing the inner end of the igniter-carrier, it will, of course, be obvious that the wall of the cylinder could be provided with an integral plate or member 2^a for closing the inner end of the igniter-carrier B', as shown in Fig. 3, said plate being supported by a plurality of lugs 9 which are spaced away from each other so as to form slots or openings 7^a through which the gas can pass into the chamber in which the igniter is arranged.

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

1. An ignition device for internal combustion engines, comprising an approximately tubular-shaped member arranged in the wall of an engine cylinder and provided with an end wall that lies inside of said cylinder, said member having openings formed in its side walls adjacent said end wall, a longitudinally adjustable igniter-holder mounted in said member and provided with external screw-threads that mesh with threads on the inner face of said member, said holder being adapted to be moved longitudinally of said

member so as to open or close the openings in the side walls thereof, and an igniter arranged in said holder.

2. In an ignition device for internal combustion engines, a hollow member mounted in the wall of an engine cylinder and provided at its inner end with a wall which lies inside of said cylinder, the side wall of said member having an opening formed therein, a longitudinally adjustable spark plug holder mounted in said member and provided with external screw-threads that mesh with internal screw-threads on said member, thereby enabling said holder to be moved into a position to close the opening in said member, said holder being open at both ends and its inner end being so shaped that a tight joint will be produced when it bears against the inside face of the end wall of the member in which the holder is mounted, and a removable spark plug mounted in said holder.

3. An ignition device for internal combustion engines, comprising an approximately tubular-shaped member stationarily mounted in the wall of an engine cylinder and provided with an end wall that is arranged inside of the cylinder, the side walls of said member having openings formed therein, a tubular-shaped igniter-holder adjustably mounted in said member and adapted to be moved into such a position that it closes the openings in the side walls of said member, a spark plug mounted in said holder, and a contact on the end wall of said member that coöperates with the contact of said spark plug.

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

FRANK A. GLASGOW.

Witnesses:

WELLS L. CHURCH,
GEORGE BAKEWELL.