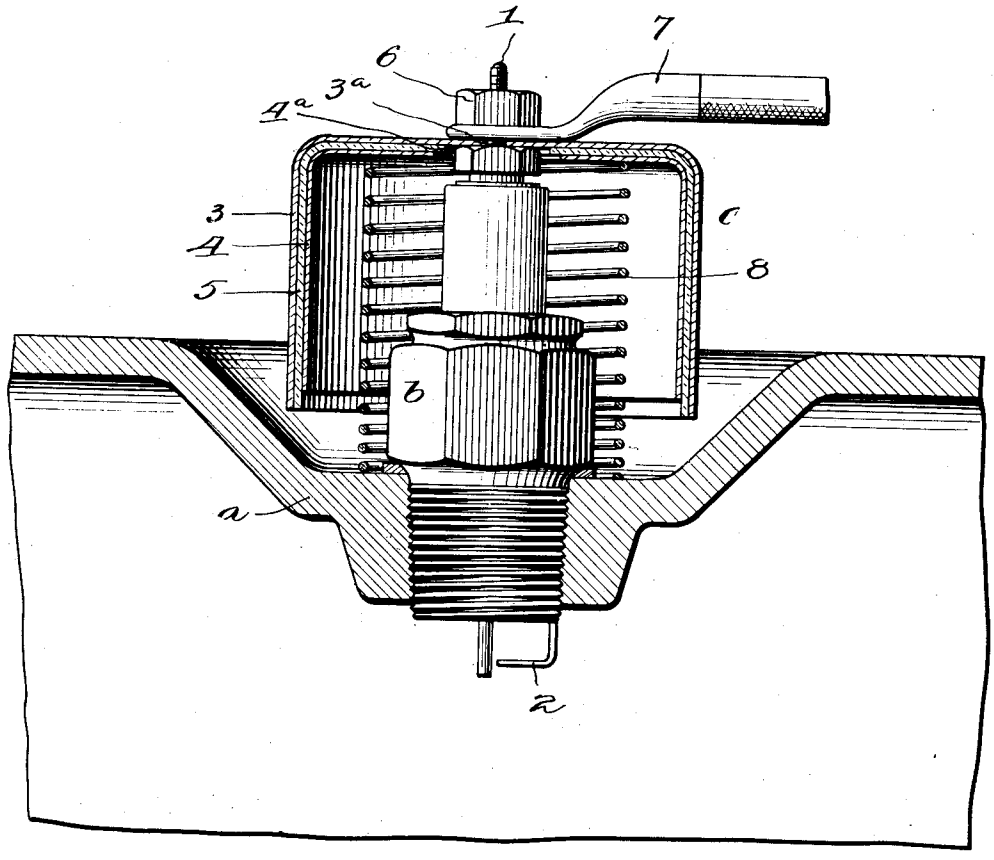
Mar. 6, 1923. 1,447,812.

G. T. W. OTTO.

SPARK PLUG ATTACHMENT.

FILED MAY 17, 1921.



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UNITED STATES PATENT OFFICE.

GEORGE T. W. OTTO, OF BALTIMORE, MARYLAND.

SPARK-PLUG ATTACHMENT.

Application filed May 17, 1921. Serial No. 470,267.

To all whom it may concern:

Be it known that I, GEORGE T. W. OTTO, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Spark-Plug Attachments, of which the following is a specification.

This invention relates to a condenser attachment for the spark plugs of internal combustion engines, and it comprises a simple and effective condenser structure which can be applied to any of the commercial forms of spark plugs now in use in a few moments, by simply placing it over the insulated terminal of the plug and securing it in position with the fastening devices associated with the plug for connecting the wire terminal to the plug.

In the accompanying drawing, which illustrates the invention, I have shown the spark plug in side view with my attachment in central vertical section, a portion of the engine being also shown in section.

Referring to the drawing, *a* represents a part of the cylinder head of an internal combustion engine to which is fitted a spark plug *b* in the usual manner. The spark plug has the usual insulated terminal 1 and the grounded terminal 2. The condenser *c*, which forms the subject of the present invention, comprises two condenser plates 3 and 4, preferably bell-shaped and the latter plate nested within the former and insulated therefrom by a layer of insulating material 5. The outer plate 3 has a small central perforation 3^a, adapting it to fit over the insulated spark plug terminal 1, to which it becomes electrically and mechanically connected by screwing down the nut 6, which is used to secure the high tension terminal 7 of the ignition system to the plug. The inner bell-shaped condenser plate 4 has a large central opening 4^a so that this plate will not engage any of the metal parts associated with the insulated terminal of the plug. To this inner plate is secured a helical spring 8, adapted to surround the plug and engage the metal of the engine adjacent the plug, in order to ground said plate on the engine. This spring projects below the lower edge of the condenser, and, when the latter is applied to the plug, the spring automatically makes the necessary electrical connection between the inner plate of the condenser and the engine.

When the attachment is applied, it will be evident that the condenser plates will be connected in parallel with the spark gap between the terminals 1 and 2, and that when the high tension circuit is closed through the spark plug by the timing mechanism of the ignition system, the intensity of the spark in the spark gap will be increased by the discharge of the condenser.

What I claim is:

1. A condenser attachment for the spark plugs of internal combustion engines comprising two metal plates insulated from one another, one having a perforation adapting it to fit on to the insulated terminal of a spark plug and a spring connected to the other plate and adapted to engage a part on the engine adjacent the plug.

2. A condenser attachment for the spark plugs of internal combustion engines comprising two bell-shaped condenser plates, one fitting within the other and insulated therefrom, the outer plate having a perforation adapting it to fit on to the insulated terminal of a spark plug, and a spring attached to the inner member and adapted to engage a part on the engine adjacent the plug.

3. A condenser attachment for the spark plugs of internal combustion engines comprising two bell-shaped condenser plates, one fitting within the other and insulated therefrom, the outer plate having a perforation adapting it to fit on to the insulated terminal of a spark plug, and a spring attached to the inner member and adapted to encircle the plug and engage a part on the engine adjacent the plug.

In testimony whereof I affix my signature.

GEORGE T. W. OTTO.