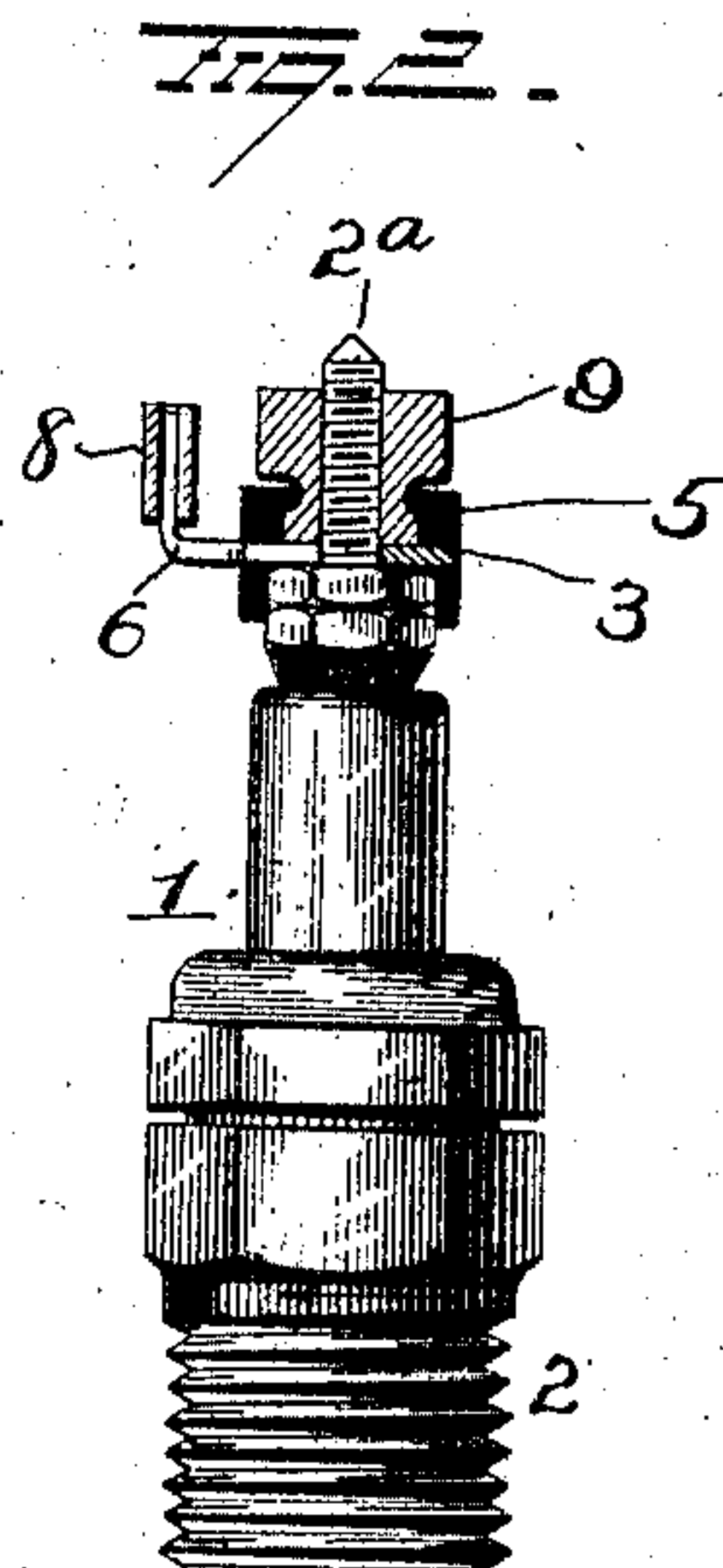
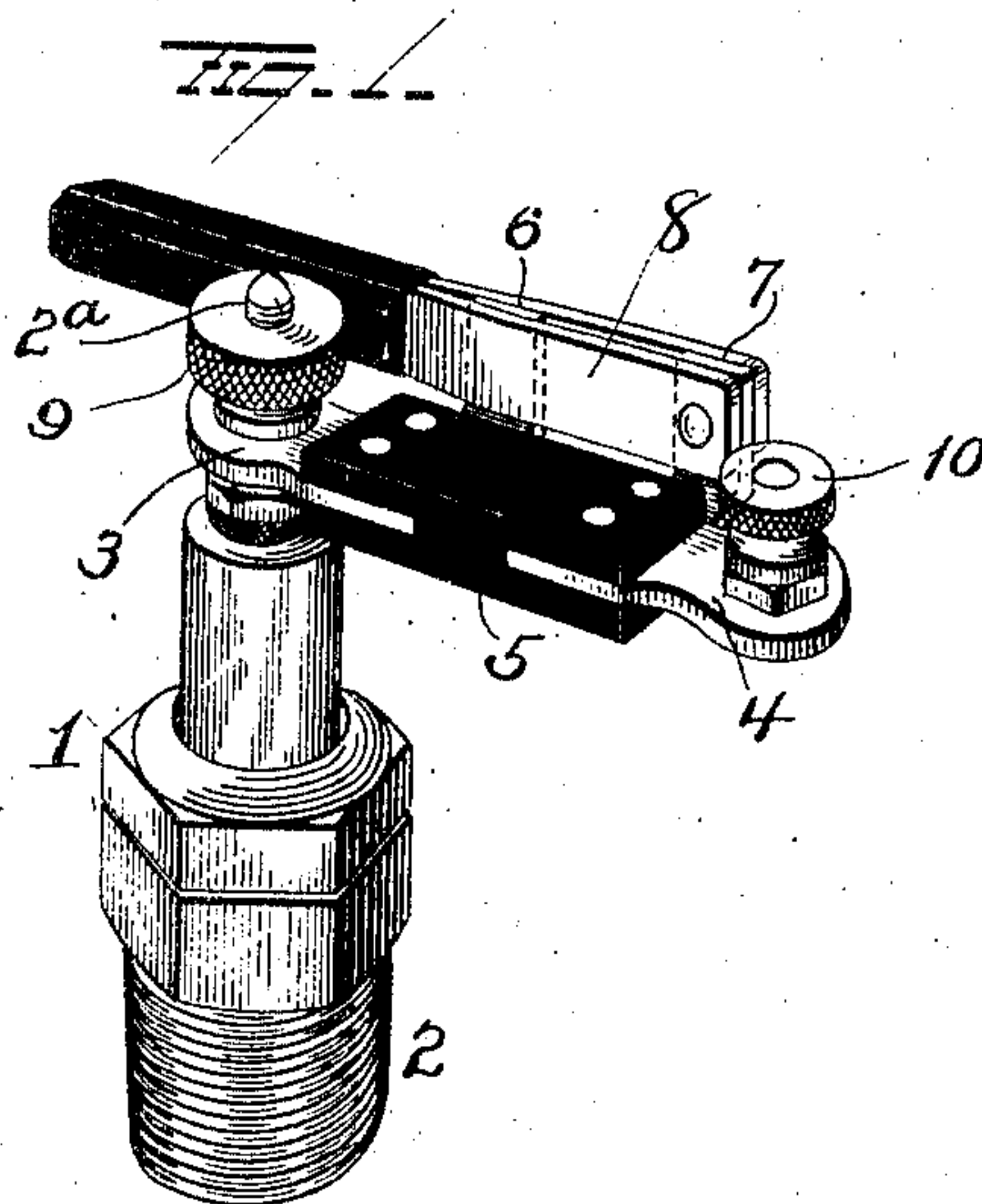


E. D. MEANS.  
ACCESSORY FOR INTERNAL COMBUSTION ENGINES.  
APPLICATION FILED FEB. 16, 1910.

963,612.

Patented July 5, 1910



WITNESSES  
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# UNITED STATES PATENT OFFICE.

EUGENE D. MEANS, OF TOWANDA, PENNSYLVANIA.

ACCESSORY FOR INTERNAL-COMBUSTION ENGINES.

963,612.

Specification of Letters Patent.

Patented July 5, 1910.

Application filed February 16, 1910. Serial No. 544,208.

*To all whom it may concern:*

Be it known that I, EUGENE D. MEANS, of Towanda, in the county of Bradford and State of Pennsylvania, have invented certain new and useful Improvements in Accessories for Internal-Combustion Engines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in accessories for internal combustion engines, and more particularly to such as are used with motor vehicles.

In the operation of internal combustion engines on automobiles, it often happens that the explosions will "miss" and when the engine is of the multi-cylinder type, the operator has considerable difficulty in determining in which cylinder the trouble exists. In his efforts to correct the difficulty, it has been necessary for him to remove the nuts and electrical connections of the spark plug on one or more of the cylinders and in doing this the small parts removed are often lost, and furthermore the operator will be subjected to the discomfort of electrical shocks.

The object of my present invention is to obviate the difficulties and inconveniences above referred to and to provide means whereby the circuit of any spark plug of the engine can be readily opened without the necessity of removing any parts, and to so construct such means that the same shall be readily applicable to any spark plug now in use and without removing the latter from the engine or in any way modifying its construction.

With this object, in view the invention consists in certain novel features of construction and combinations of parts as hereinafter set forth and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view showing the application of my improvements to a spark plug, and Fig. 2 is a sectional view.

1 represents a spark plug of any approved construction and provided with the usual threaded shank 2. On this shank my improved circuit controlling device is applied. The device comprises two metallic plates 3—4, electrically spaced apart and held by

means of a block 5 of suitable insulating material.

The plates 3—4 are provided with laterally projecting arms 6—7 which may be made integral with said plates and to one of these arms, a switch lever 8 is pivotally attached and adapted to cooperate with the other of said arms for the purpose of electrically connecting the plates 3 and 4. The switch lever comprises two metallic members 8<sup>a</sup> spaced apart to receive the arms 6—7 between them, and a handle 8<sup>b</sup> of insulating material. The plate 3 is made with a hole for the accommodation of the stem 2 of the spark plug and is suitably clamped in position on said stem by means of a nut 9. The plate 4 is provided with a binding post 10 for the attachment of a conductor from a suitable source of electrical supply.

With my improvements, the operator can readily open circuit the spark plug by means of the switch lever and can with equal facility close said circuit.

Slight changes might be made in the details of construction of the device without departing from the spirit of my invention or limiting its scope and hence I do not wish to restrict myself to the precise details herein set forth.

Having fully described my invention what I claim as new and desire to secure by Letters-Patent is,—

1. An accessory for internal combustion engines, comprising a block of insulating material, two metal plates secured thereto and electrically separated thereby, one of said plates adapted for attachment to a spark plug, a binding post carried by the other plate, and a switch lever pivotally connected to one of said plates and adapted to be electrically connected with and disconnected from the other plate for closing and opening the circuit of the spark plug.

2. An accessory for internal combustion engines, comprising a block of insulating material, two metal plates secured to said block and electrically separated thereby, one of said plates adapted for attachment to a spark plug, a binding post carried by the other plate, said plates provided with lateral arms, and a switch lever pivoted to the lateral arm of one plate and adapted to engage and make electrical contact with the lateral arm of the other plate.

3. An accessory for internal combustion



engines, comprising a block of insulating material, two metal plates secured thereto and electrically separated thereby, one of said plates adapted for attachment to a spark plug, a binding post carried by the other plate, said plates having lateral arms, and a switch lever pivoted to the arm of one plate and comprising two spaced members to receive the arm of the other plate between them.

4. In a device of the character described, the combination of two metallic plates, each having an arm, insulating means separating

said plates, one of said plates adapted for attachment to a spark plug, a binding post on the other plate, and a switch lever pivotally attached to the arm of one of said plates and adapted to electrically and mechanically engage the arm of the other plate.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

EUGENE D. MEANS.

Witnesses:

JAMES H. COOK,  
WILLIAM P. WILSON.