

No. 698,042.

Patented Apr. 22, 1902.

A. R. MOSLER.
ELECTRIC IGNITION DEVICE.

(Application filed Feb. 3, 1902.)

(No Model.)

Fig. 1.

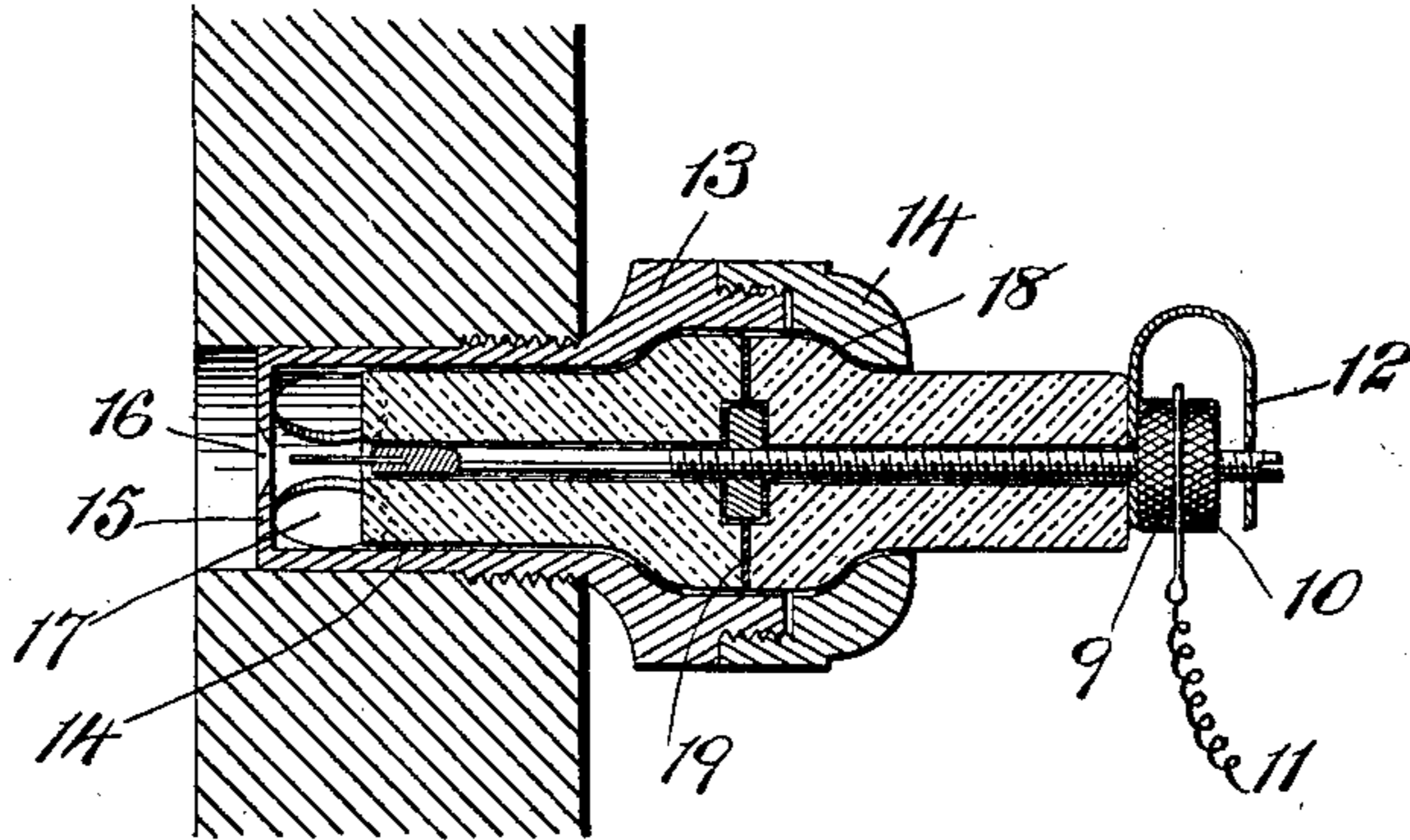


Fig. 2.

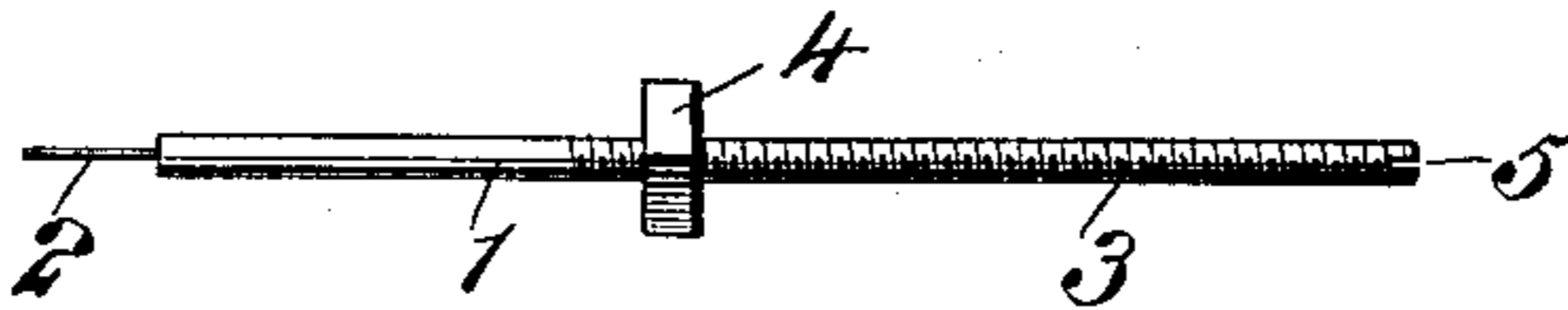


Fig. 3.

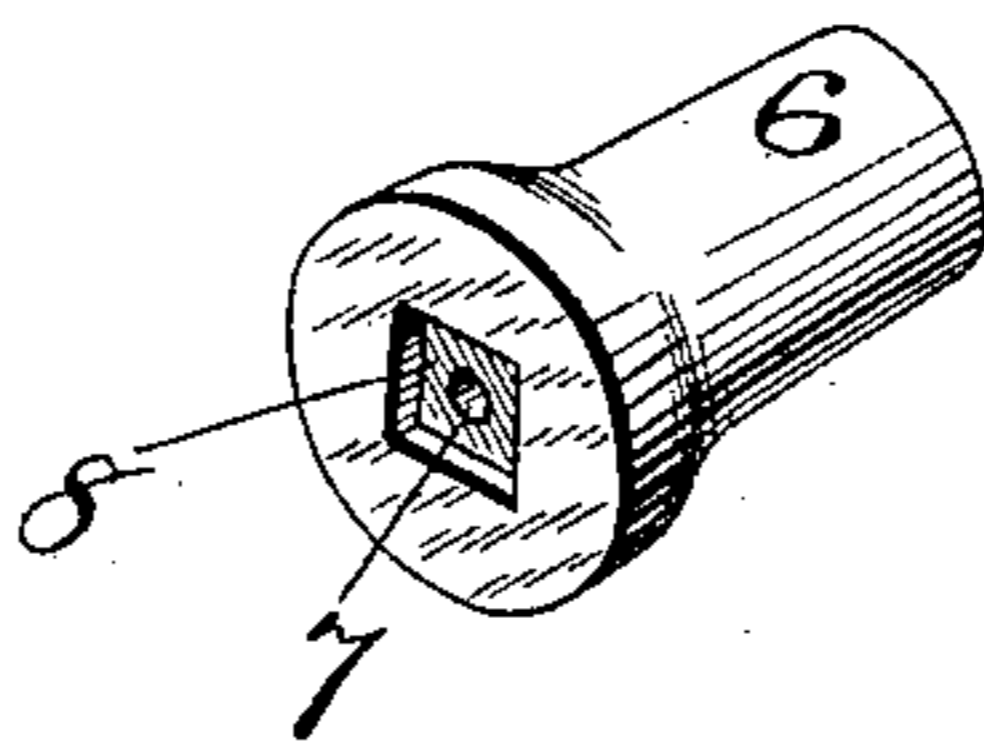
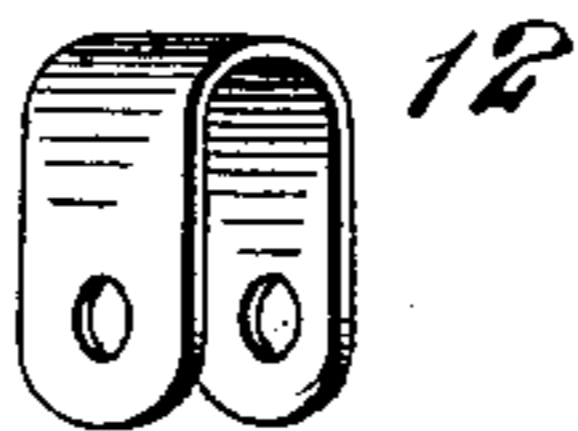


Fig. 4.



Witnesses:-
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UNITED STATES PATENT OFFICE.

ARTHUR R. MOSLER, OF NEW YORK, N. Y.

ELECTRIC IGNITION DEVICE.

SPECIFICATION forming part of Letters Patent No. 698,042, dated April 22, 1902.

Application filed February 3, 1902. Serial No. 92,387. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR R. MOSLER, a citizen of the United States, and a resident of the borough of Manhattan, in the city and State of New York, have invented a new and useful Improvement in Electric Ignition Devices, of which the following is a specification.

My invention relates to an improvement in electric ignition devices, and has for its object to provide certain improvements in the construction, form, and arrangement of the several parts of an electric ignition device, whereby the liability of misfiring is materially reduced and in which the conducting-wire may be adjusted longitudinally for bringing its sparking-point into proper relation to the sparking-point of the hollow plug without affecting the assembling of the several parts.

A practical embodiment of my invention is represented in the accompanying drawings, in which—

Figure 1 is a longitudinal central section through the electric ignition device and a portion of the engine-wall to which it is applied. Fig. 2 is a detail side view of the screw-threaded conducting-wire and the shoulder-nut carried thereby. Fig. 3 is a perspective view of one of the reversible insulating-blocks, and Fig. 4 is a perspective view of the guard for preventing the loss of the lock-nuts from the outer end of the conducting-wire.

The conducting-wire is denoted by 1, and it is provided at its inner end with the usual platinum point 2 in alinement with the said wire throughout its entire length. The conducting-wire 1 is exteriorly screw-threaded from its outer end, as shown at 3, a considerable distance toward its inner end, which screw-threaded portion 3 is engaged by a shoulder-nut 4, which is fitted to be held against movement by the insulating-blocks to be hereinafter described for permitting the longitudinal adjustment of the wire as the wire is turned. This wire is further provided with a kerf 5 in its outer end for the reception of a screw-driver for use in turning the wire for adjusting it. Two reversible insulating-blocks 6 have longitudinal holes 7 from end to end therethrough for receiving the conducting-wire 1. These insulating-blocks are provided in their adjacent ends with an-

gular recesses 8, surrounding the longitudinal hole 7, for receiving the shoulder-nut 4 therein to prevent its turning as the wire is turned when the parts are assembled. The sparking-point 2 projects beyond the inner face of the inner of the two insulating-blocks, and the screw-threaded outer end of the wire projects a short distance beyond the outer face of the outer of the two insulating-blocks. Two lock-nuts 9 and 10 are engaged with the screw-threaded outer end of the conducting-wire, which lock-nuts serve to clamp the wire 11, leading to the source of electrical energy, in position with respect to the conducting-wire 1. To prevent the loss of the outer one of the lock-nuts should it become loosened, I provide a U-shaped guard 12, one branch of which is interposed between the outer face of the outer end of the outer insulating-block and the lock-nut 9 and the other branch of which embraces the outer end of the wire 1 beyond the lock-nut 10. These lock-nuts 9 and 10 not only serve to lock the wire 11 to the conducting-wire, but also serve to lock the conducting-wire 1 in its longitudinal adjustment. The adjacent ends of the insulating-blocks are preferably enlarged, as shown, and they are held together around the shoulder-nut 4 by means of a hollow plug 13 and its cap 14 having a screw-threaded engagement therewith. The plug 13 is provided with a hollow shank 14 and having its inner end closed, except for a small opening 16, arranged centrally therethrough, the walls of which opening are beveled so as to present a sharp edge for assisting the jump of the spark from the sparking-point 2 to the wall of the said hole 16. This end wall 15 of the hollow shank 14 of the plug is spaced a short distance from the inner end of the inner block 6, and the side walls of the shank 14, adjacent to the end wall 15, are provided with a plurality of holes 17 opposite the inner end of the insulating-plug 6 for facilitating the cleaning of the inner end of the plug when the ignition device is removed from the engine. This is accomplished by passing a rag or other suitable cleaning device through the hole 17 into engagement with the said inner end of the insulating-plug. By this means the plug may be kept free from all material which would tend to short-circuit the conducting-wire.

The outer insulating-block 6 projects outwardly through the top of the cap 14. The insulating-blocks are protected from direct contact with the plug and cap by means of packing rings or washers 18, of mica or other suitable material, and the adjacent ends of the two plugs are protected from direct engagement with each other and with the shoulder-nut 4 by means of washers 19, of mica or other suitable material.

It will be seen that by the use of the ignition device as above described the accurate sparking of the device may be insured without removing the device from the engine. This may be accomplished by loosening the lock-nuts 9 and 10, and then by the use of a screw-driver the conducting-wire 1 may be accurately adjusted until the point 2 is brought into proper relation with the point formed by the sharpened walls in the end wall of the hollow plug. As the contact-point 2 becomes more or less pitted a new surface may be brought into use by the same means as just above described. It may thus be seen that the life of the plug is materially lengthened and that it may be accurately adjusted to produce the best results in a very simple and effective manner.

The insulating-plugs 6 are interchangeable, so as to permit the ready insertion of a new plug or the reversal of the old plug, as may be desired.

When the plug is inserted in position within the engine, the openings 17 are closed by the walls of the hole within which the plug is inserted, thus forming a chamber surrounding the contact-point carried by the conducting-wire, with the only opening therefrom being through the hole 16 in the end wall of the plug. If so desired, the arc or spark may be formed within such chamber by drawing the contact-point 2 entirely into the interior thereof, so as to cause a pronounced jet of flame to be forced through the hole 16 into the interior of the cylinder when the gas is ignited.

What I claim is—

1. An electric ignition device comprising a conducting-wire, a shoulder-nut screwed thereon, reversible insulating-blocks surrounding the wire and nut, arranged to hold the nut against movement for causing the wire to be moved longitudinally as it is rotated and a plug and cap for holding the parts assembled.

2. An electric ignition device comprising a conducting-wire, reversible insulating-blocks surrounding the wire, a hollow plug and cap for holding the parts assembled, the said plug projecting beyond the inner end of the inner block and provided with a hole through its inner end wall.

3. An electric ignition device comprising a conducting-wire, reversible insulating-blocks

surrounding the wire, a hollow plug and cap for holding the parts assembled, the said plug projecting beyond the inner end of the inner block and provided with cleaning-holes through its side walls in alinement with the inner end of the said block.

4. An electric ignition device comprising a conducting-wire, reversible insulating-blocks surrounding the wire, a hollow plug and cap for holding the parts assembled, the said plug projecting beyond the inner end of the inner block and provided with a hole through its inner end wall and with cleaning-holes through its side walls in alinement with the inner end of the said block.

5. An electric ignition device comprising a conducting-wire, reversible insulating-blocks surrounding the wire, a hollow plug and cap for holding the parts assembled, the said plug projecting beyond the inner end of the inner block and provided with a hole in its end wall, the wall of which is beveled to form a sharp edge for assisting the jump of the electric spark from the wire to the plug.

6. An insulating-plug for electric ignition devices having a hole therethrough for receiving the conducting-wire and an angular recess therein for receiving a nut and holding it against rotary movement.

7. An insulating-block for electric ignition devices having a hole therethrough and an angular recess surrounding the hole at one end of the block.

8. A hollow ignition-plug having a hole through its end wall and cleaning-holes through its side wall adjacent to the end wall.

9. An electric ignition device comprising a conducting-wire having a screw-threaded outer end, insulating-blocks surrounding the wire, a hollow plug and cap for holding the parts assembled, lock-nuts engaging the screw-threaded end of the wire exterior to the said insulating-blocks and a guard for preventing the unintentional removal of the lock-nuts.

10. An electric ignition device comprising a conducting-wire having a screw-threaded outer end, insulating-blocks surrounding the wire, a hollow plug and cap for holding the parts assembled, two lock-nuts engaging the screw-threaded end of the wire and a U-shaped guard having one of its branches interposed between the inner lock-nut and insulating-block and its other branch surrounding the end of the wire exterior to the other lock-nut.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 29th day of January, 1902.

ARTHUR R. MOSLER.

Witnesses:

FREDK. HAYNES,
HENRY THIEME.