L. BASKIN.

ELECTRIC IGNITER DEVICE.

APPLICATION FILED MAY 7, 1907.

927,704. Patented July 13, 1909.

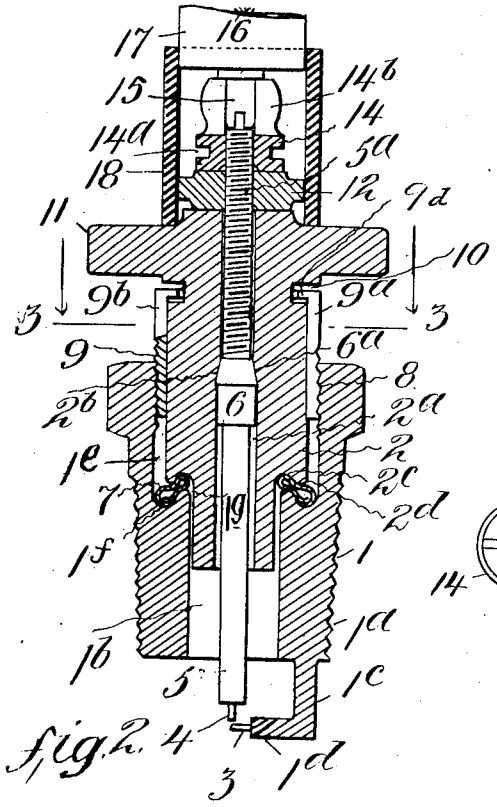


fig. 2.

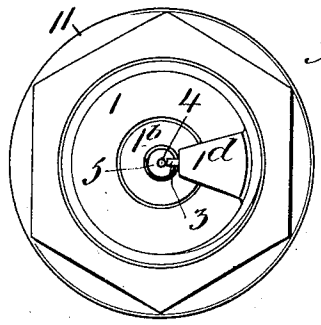


fig. 1.

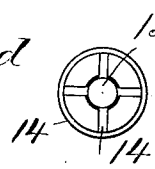


fig. 5.

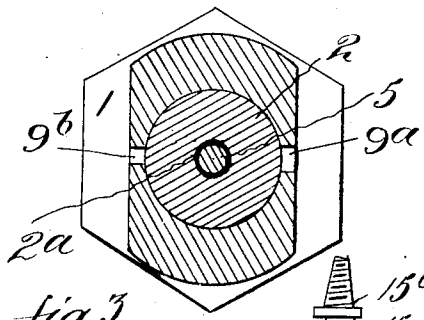


fig. 3.

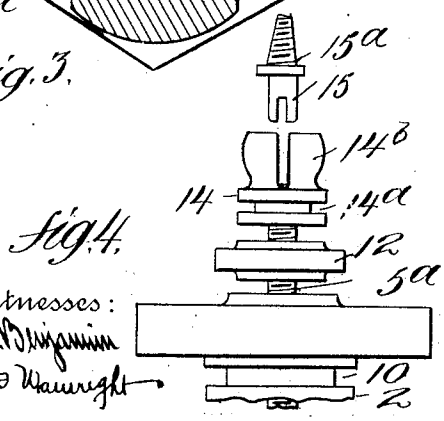


fig. 4.

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UNITED STATES PATENT OFFICE.

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ELECTRIC IGNITER DEVICE.

No. 927,704. Specification of Letters Patent. Patented July 13, 1909.

Application filed May 7, 1907. Serial No. 372,376.

To all whom it may concern:

Be it known that I, LOUIS BASKIN, a subject of the Czar of Russia, and resident of New York city, borough of Brooklyn, New York, have invented certain new and useful Improvements in Electric Igniter Devices, of which the following is a specification.

My invention relates to improvements in electric igniters, commonly called spark plugs, for use in electrical ignition circuits in gas engines and the like, and it has for its object to provide improved means for making gas-tight joints between the base and insulating member of the plug; to provide improved terminals or points for the jump spark; and also generally to improve the construction of such devices.

The invention comprises the novel details of improvement and combinations of parts that will be more fully hereinafter set forth and then pointed out in the claims.

Reference is to be had to the accompanying drawings forming part hereof, wherein,

Figure 1 is an end view of an igniter or spark plug embodying my invention, Fig. 2 is a central section thereof, Fig. 3 is a cross section on the line 3, 3 in Fig. 2, Fig. 4 is a detail view of the outer end of the plug showing the relation of the parts, Fig. 5 is a detail end view of the spring clip for the terminal wire.

Similar numerals of reference indicate corresponding parts in the several views.

In the drawings the numeral 1 indicates a suitable metal base shown provided with usual screw threads 1^a for attachment to an engine, and said base also has a bore 1^b receiving the insulating member 2. At its outer end base 1 is provided with an extension 1^c extending lengthwise of the base and made integral therewith and having a substantially triangular-shaped inwardly extending arm 1^d, at the outer end extending transversely, at the small end of which is attached the contact or terminal 3, such as platinum, which may be driven into a hole in arm 1^d. At 4 is a corresponding terminal shown projecting from a rod or conductor 5, which terminal may be made of platinum, and is located adjacent terminal 3 providing a space therebetween for the jump spark. The tapering form of arm 1^d serves to keep the spark near the end of the arm if the terminal 4 becomes displaced. The rod 5 of suitable metal is carried by the insulating member 2 and is shown located within the bore 2^a therein, and projects through bore 1^b, and at its upper end rod 5 is provided with a screw thread 5^a projecting beyond member 2. Rod 5 is shown provided with a packing or sleeve 6, which may be made of soft metal, such as brass, secured on said rod; and said sleeve is shown beveled or tapered at 6^a to bear against the corresponding beveled seat 2^b at the base 2^a of insulation 2 to make a gas tight joint thereat. Base 1 has an enlarged bore 1^e provided with a concave or recessed seat 1^f surrounding an annular rib 1^g at the edge of bore 1^b, and insulating member 2 has a corresponding concave annular seat 2^c opposed to the rib 1^g and also has an annular projection or rib 2^d opposed to seat 1^f.

At 7 is a suitable packing or washer interposed between the parts 1^f, 1^g, and 2^c, 2^d adapted, when the insulating member 2 is pushed within base 1, to make gas tight joints therebetween. The bore 1^e has internal threads 8 receiving corresponding threads on a nut 9 which fits over insulating member 2. Said nut is split vertically, as at 9^a, for the full length on one side, and may also be split for a short distance on the other side, as at 9^b, and said nut has an inwardly projecting flange 9^d engaging a corresponding groove 10 in insulating member 2. By having said nut split vertically it may be sprung open sufficiently to enable its flange 9^d to enter the groove 10 so that when said nut is screwed into the threads 8 of base 1 it will draw the insulating member 2 downwardly within base 1 to force said member firmly against packing 7. The nut 9 may be slipped endwise along insulating member 2, and the integral portion of the nut will be of sufficient dimension and elasticity as not to break apart when the nut is applied upon member 2. This construction enables the use of porcelain or other suitable insulating material for the member 2, while permitting the nut to draw said member downwardly into base 1. The insulating member 2 is shown provided with an annular head 11 of greater diameter than nut 9 to assist in protecting the same. At 12 is a nut screwed upon threads 5^a of rod 5 serving to draw the packing or sleeve 6 of said rod securely against its seat 6^a in insulation 2 and uniting said parts firmly together. At 14 is a nut fitted upon threads 5^a and a terminal wire may be secured between said nuts 12 and 14, and nut 14 also may have a groove 14^a to receive a forked terminal of a conductor when de-

sired. Said nut 14 at its outer end is also shown provided with spring fingers 14^b adapted to receive a terminal 15 from a line wire 16, which terminal may be provided with screw threads 15^a adapted to be screwed into insulation 17 of the line wire and in contact with the wire 16 to make circuit therewith, whereby said terminal is firmly connected with the conductor. Said terminal may be attached to nut 14 by pushing the part 15 between the fingers 14^b, and be removed by pulling it therefrom.

An insulating sleeve 18 may surround the nuts 12 and 14 and the end of insulation 17 and bear against the insulating head 11 to protect the terminal from water.

Having now described my invention what I claim is:

1. An igniter comprising a base provided with a terminal and having a bore, an insulating member within said bore and provided with a terminal, said base and member having complemental annular recesses and projections, packing interposed between said recesses and projections, said insulated member being provided with an annular groove above said base, and a nut having threads fitting threads in the base and provided with an inward flange entering the groove of said member, said nut having an integral portion at its threads on one side and divided vertically on the opposite side to enable the flange of the nut to enter into the groove of said member while the parts of the nut remain united the nut and insulating member remaining united when removed from the base.

2. An igniter comprising a base provided with a terminal and having a bore, an insulating member having a terminal at the lower part and provided with an annular groove above said base, and a nut divided vertically throughout its length on one side and integral at the threaded portion on the opposite side and divided above said integral portion, said nut having an inward flange above the threads fitting the groove of the insulating member, whereby the nut may be sprung open to fit its flange in said groove and the parts of the nut remain intact the nut and insulating member remaining united when removed from the base.

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