

J. DUBAIL.
JUNCTION BOX FOR SPARKING PLUGS.
APPLICATION FILED JUNE 1, 1910.

985,791.

Patented Mar. 7, 1911.

Fig. 1.

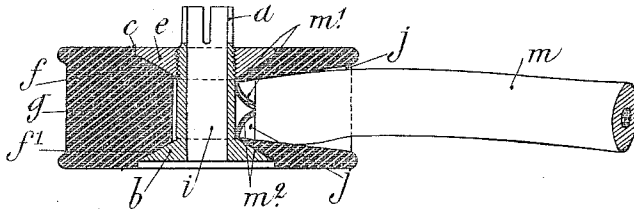


Fig. 2.

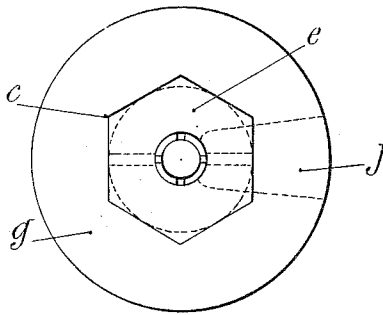


Fig. 4.

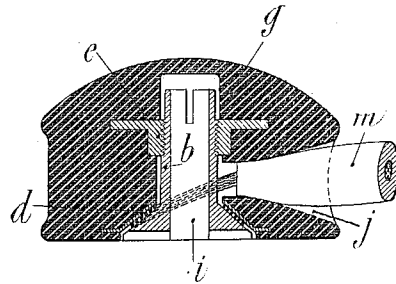
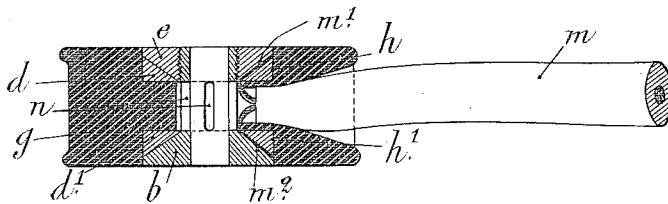


Fig. 3.



Witnesses:
R. L. Peterson
C. Lancia Frauch

Inventor
Jules Dubail
by *[Signature]*
his Attorney

UNITED STATES PATENT OFFICE.

JULES DUBAIL, OF DELLE, FRANCE, ASSIGNOR TO SOCIÉTÉ INDUSTRIELLE DE DELLE,
OF DELLE, FRANCE.

JUNCTION-BOX FOR SPARKING PLUGS.

985,791.

Specification of Letters Patent.

Patented Mar. 7, 1911.

Application filed June 1, 1910. Serial No. 564,424.

To all whom it may concern:

Be it known that I, JULES DUBAIL, citizen of the Republic of France, residing at Delle, Territoire de Belfort, France, have invented
5 new and useful Improvements in Junction-Boxes for Sparking Plugs, of which the following is a specification.

It is interesting, particularly in motors with several cylinders, that it is possible to
10 separate from the source of electricity the ignition device of any one of the cylinders without stopping the motor. To this end ignition devices have been constructed terminating in a contact plug, to which the
15 leads for the ignition current are joined.

The arrangement which forms the object of the present invention offers over existing systems the advantage of simplicity both as regards the construction and the
20 connection of the current supply conductor.

One form of a construction of this device is represented in section and in plan respectively in Figures 1 and 2 of the accompanying drawing. Fig. 3 illustrates in
25 section a second constructional form thereof, and Fig. 4 represents still another constructional form of the device.

A washer-like member or washer *g* of insulating material is provided with two recesses *f*, *f'*, and with an opening slightly
30 larger than the diameter of a stem or screw *b* passing through it and being by preference of a tubular form. This screw, which has a central passage *i* extending through its
35 whole length, is provided with a conical head, slotted for tightening purposes and capable of entering one of the recesses *f'* in the washer *g*. A nut *e* which is likewise conical and by preference hexagonal, for the
40 purpose of preventing it from turning during tightening, is adapted to enter the recess *f* in the washer *g*, which latter recess is at *c* likewise of hexagonal shape for the reception of the nut.

45 The washer *g* is provided with a lateral opening *j* for the introduction of the conductor *m* attached to the source of electricity. As this conductor is always composed of several individual wires, it is easy,
50 after its introduction into the opening *j*, to lead one half *m'* of its wires to the recess *f* and the other half *m''* to the recess *f'*, and to so spread them at these points as to prevent the formation of excessively thick ends
55 and to enable the tightening of the nut *e*

on the screw *b* which can still be accomplished in spite of the wires, because of the free play provided for it in the central opening of the washer *g*. In this manner the conductors are held firmly in a perfect
60 manner in the recesses *f*, *f'*, and between the screw *b* and its nut *e*.

The screw *b* may be prolonged at *a* in the form of a tubular end which is split and contracted or reduced so as to fit without
65 play on to the plug contact at the extremity of the ignition device.

Fig. 3 represents a modified construction in which the screw *b* instead of extending beyond the nut *e* is provided with slots *n*
70 milled between the head and nut and permitting attachment to the plug contact of the ignition device by a suitable tightening of the body or stem of the screw thus perforated. It will be understood that the slots *n* are
75 provided in the screw *b* in order that the latter may be rendered elastic and easily bent, either peripherally contracted or enlarged, to facilitate engagement of the screw
80 *b* with the plug contact of the ignition device (not shown). Finally in the case where, by the nature of the insulating material chosen for the washer *g*, the pressure exerted by the screw *b* against the nut *e* would be
85 liable to cause breakage of the insulating washer, the recesses *f*, *f'* (Fig. 1) could be replaced by cylindrical cavities *h*, *h'* (Fig. 3) embedded in which are metal rings *d*, *d'* of triangular section when the heads of the screw and nut are conical, or of rectangular
90 section if the screw and nut have cylindrical heads, said rings being adapted to take up the radial or longitudinal strain due to the tightening of the screw *b* against the nut *e*.

According to the construction shown in
95 Fig. 4, the device comprises a body *g* of insulating material provided with a lateral opening *j* for the introduction of the leading-in conductor *m* attached to the electric source. The screw *b* having a conical head
100 is provided with an axial opening *i*, and with a tubular end which is split and reduced so as to be capable of being attached to the plug contact at the end of the ignition device. This tubular end of the screw
105 stem instead of being extended beyond the insulating body as in the former example, is in this case inside this insulating body which latter is not pierced from end to end as before. The nut *e* is in this construction
110

contained within the insulating member as shown in the drawing. The advantage of this modification is that the leading-in device is completely surrounded by the insulating washer *g* thereby protecting the operator against any shocks which might result from his touching the conductive parts of the device. Moreover in this construction a reinforcing metallic washer or insertion *d* is used for the attachment of the conductor clamped beneath the head of the screw, and which is likewise embedded in the insulating body *g*, whereby the construction is considerably simplified.

15 What I desire to protect and claim by Letters Patent is:

1. In a device of the character described, the combination with a washer like member of insulating material having a transverse opening therethrough and recesses adjacent said opening presenting inclined faces, there being a radial opening in said member, of a tubular conducting member insertible in the transverse opening and being of less diameter than the latter, said tubular member being slotted and adapted to telescope with a correspondingly formed plug a head carried by said conducting member and being inclined to conform to the inclined faces of the recesses, and means whereby said head may be wedged into one of said re-

cessed and clamp conducting wires in the device.

2. In a device of the character described, the combination with a washer like member of insulating material having a transverse opening therethrough and recesses immediately adjacent said opening presenting inclined faces, there being a radial substantially conical opening in said member, of a hollow conducting screw insertible in the transverse opening and being of less diameter than the transverse opening, said screw being slotted and adapted to telescopically engage a correspondingly formed plug, and said screw having a head the surface of which is inclined to conform to the inclined face of a recess adjacent the transverse opening, and a nut adapted to engage one end of said screw, said nut having an inclined surface conforming to the inclined face of a recess and said nut being designed to wedge said head in a recess to clamp conducting wires between the washer like member and the screw.

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

JULES DUBAIL.

Witnesses:

GEO. GIFFORD,
ARNOLD ZUBER.