

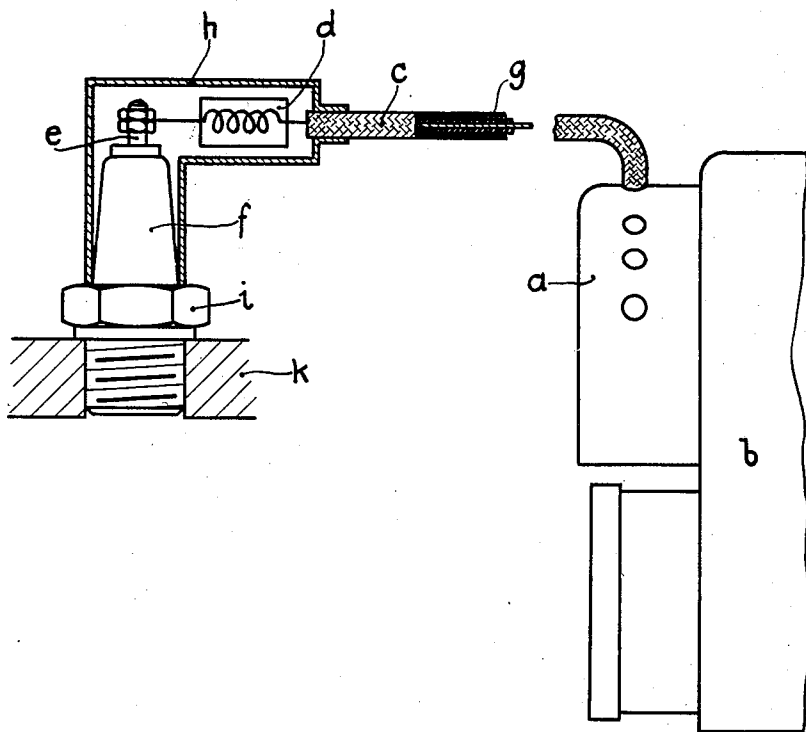
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W. DORN

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IGNITION SYSTEM OF INTERNAL COMBUSTION ENGINES

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Inventor
Walter Dorn
by Stearns & McCarty
his attorneys

UNITED STATES PATENT OFFICE

WALTER DORN, OF STUTTGART, GERMANY, ASSIGNOR TO ROBERT BOSCH AKTIEN-GESELLSCHAFT, OF STUTTGART, GERMANY

IGNITION SYSTEM OF INTERNAL COMBUSTION ENGINES

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The present invention relates to screening devices for the ignition systems of internal combustion engines.

In a known device for screening electromagnetic waves in ignition devices for internal combustion engines, inductance coils are inserted in the ignition circuit between the ignition cables and the sparking plugs and the cables between the inductance coils and the source of the ignition current are shrouded with a metal armour or braid which is electrically connected to earth at both ends. With this screening only the long wave components of the electromagnetic waves produced at the sparking plug can be drawn through the ignition coils into the cable where they are prevented from radiating outwards by the braid; the short wave components are, it is true, absorbed by the ignition coils but the sparking plug can radiate energy without hindrance on the stretch between the inductance coil and the sparking gap.

It is also known to arrange a metallic covering of the feed cable without any break in the longitudinal direction from the earthed part of the sparking plug up to the source of the current. This protecting covering consists generally of a loose metal braid or armour which is sufficient for screening long waves, but on the other hand does not screen short waves satisfactorily. In order to obtain perfect screening each cable would have to be surrounded by a metal tube, this however would be very expensive and in many cases even inconvenient, and more particularly the capacity of the ignition circuit would be increased to such a great extent that the capacity of the usual magneto or battery ignition device would generally no longer be sufficient for satisfactory operation.

According to the invention the inductance coil and the sparking plug are surrounded by a metal sleeve which is impermeable to short waves and which extends from the braid or woven portion of the cable up to the earthed portion of the sparking plug. The light protecting braid covering which is of small capacity and very convenient when arranging the cable can be made of loose woven wire and despite this an effective

screening can be obtained because the short waves which are radiated by the plug are screened off by the sheath of the sparking plug.

One form of construction is diagrammatically shown by way of example in the accompanying drawing.

The distributor disc *a* of the magneto ignition device *b* is connected through the cable *c* to one end of an inductance coil *d*. The other end of the induction coil is connected to the insulating electrode *e* of the sparking plug *f*. The cable is sheathed with a loose metal braid *g* which is connected at one end to the magneto casing *b* and at the other end to a metal protecting cap *h*. The cap *h* which surrounds the sparking plug and the inductance coil, is mounted on the sparking plug body *i* which is mounted on the engine frame *k*.

I declare, that what I claim is:

1. A device for screening electromagnetic impulses in ignition systems of internal combustion engines comprising a source of high tension current, a sparking plug, a lead from said source of current to said sparking plug, an inductance coil in series with said sparking plug and said source of current, metal braid covering said lead and a metal cover enclosing said sparking plug and said inductance coil.

2. A device for screening electromagnetic impulses in ignition systems of internal combustion engines comprising a source of current, a sparking plug, an inductance coil connected in series between said source of current and said sparking plug, a lead connecting said source of current and said inductance coil, a metal braid covering said lead and a metal cover enclosing said inductance coil and said sparking plug and in electric contact with said braid and with the frame of the engine.

In testimony whereof I have hereunto affixed my signature.

WALTER DORN.