Jan. 2, 1968 A. D. PRICKETT 3,361,886

ROTOR ARMS FOR IGNITION DISTRIBUTORS

Filed July 28, 1966

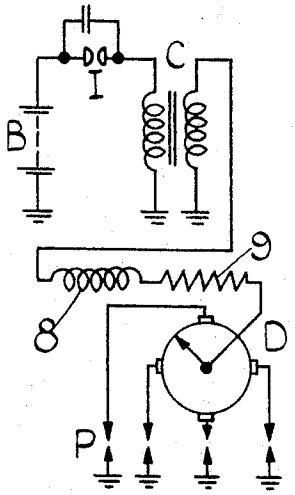


FIG. 1.

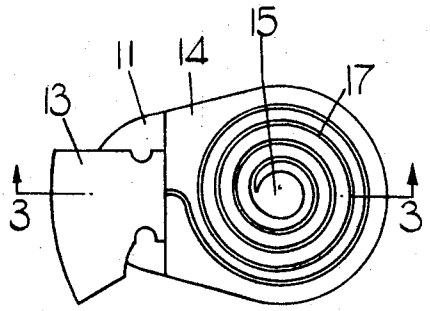


FIG. 2.

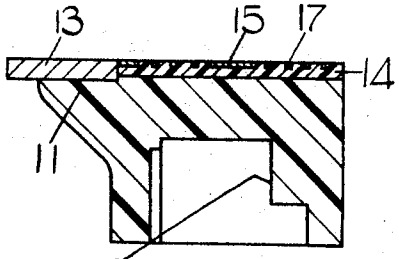


FIG. 3.

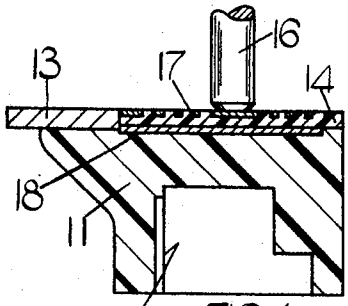


FIG. 4.

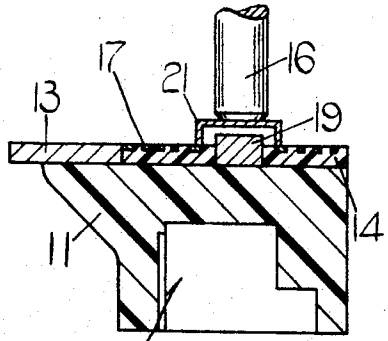


FIG. 5.

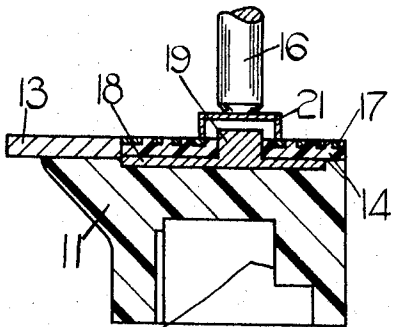


FIG. 6.

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ROTOR ARMS FOR IGNITION DISTRIBUTORS

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3 Claims. (Cl. 200—166)

ABSTRACT OF THE DISCLOSURE

A rotor arm for use in an ignition distributor includes a contact piece which in use rotates and is adapted to contact a plurality of fixed contact pieces in turn. The contact piece is carried by an insulating body, on which are printed an inductor and a resistor in series for reducing radio interference. Preferably, in order to increase the inductance of the inductor,, a disc of ferro-magnetic material is connected to the body but insulated from the printed circuit, or a core of ferro-magnetic material is provided which extends through but is insulated from the printed circuit.

This invention relates to a rotor arm for the distributor of a spark ignition system.

A rotor arm according to the invention comprises an insulating body adapted for connection to a rotatable spindle, a contact piece carried by the body and adapted to contact a plurality of fixed contact pieces in turn as the arm rotates, and a printed circuit on said body, the printed circuit including a central zone for engagement by a brush connected to an ignition coil, together with a conductor connecting the central zone to the contact piece and shaped to define an inductor and a resistor in series, the inductor and resistor serving to reduce radio interference.

In the accompanying drawings:

FIGURE 1 is a circuit diagram of a vehicle ignition system,

FIGURE 2 is a plan view of a rotor arm constructed in accordance with a first example of the invention,

FIGURE 3 is a plan view on the line 3—3 in FIGURE 1 and,

FIGURES 4, 5 and 6 are views similar to FIGURE 3 of second, third and fourth examples respectively.

Referring to FIGURE 1, the ignition system includes a battery B, and ignition coil C current flow in which is controlled by an interrupter I bridged by a capacitor, and a distributor D supplying sparks to the plugs P in turn. Current flows to the plugs through an inductor **8** and a resistor **9** which are incorporated in the rotor arm as shown in the remaining drawings.

Referring now to FIGURES 2 and 3, the rotor arm includes a body **11** moulded in a synthetic resin and having formed in one face thereof a blind bore **12** for engagement with the rotatable spindle of the distributor D. Secured to the opposite face of the body is a contact piece **13** which as the arm rotates co-operates with in turn a plurality of fixed contact pieces electrically connected to the plugs P. Also on said opposite face is a printed circuit **14** including a central zone **15** which in use is engaged by a spring-loaded brush **16** connected to the ignition coil C,

the zone **15** being connected to the contact piece **13** by a printed spiral conductor **17**. The spiral conductor **17** acts as the resistor **9** and inductor **8** which in use act to reduce or obviate radio interference.

Referring now to FIGURES 4, 5 and 6, the inductance of the conductor may be increased if necessary by means of a disc **18** of ferromagnetic material (e.g. ferrite) mounted behind the printed circuit but insulated therefrom (FIGURE 4) or by a core **19** of the same material mounted in an axial bore in the rotor so as to extend through the printed circuit (FIGURE 5), or by a combination of both disc **18** and the core **19** (FIGURE 6).

In either of the arrangements utilizing the core **19** a conductive cap **21** covers the projecting end of the core **19** but is insulated therefrom, the cap **21** being engaged by the brush **16** in use and connected by soldering, to the conductive part of the printed circuit.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:

1. A rotor arm comprising an insulating body adapted for connection to a rotatable spindle, a contact piece carried by the body and adapted to contact a plurality of fixed contact pieces in turn as the arm rotates, and a printed circuit on said body, the printed circuit including a central zone for engagement by a brush connected to an ignition coil, together with a conductor connecting the central zone to the contact piece and shaped to define an inductor and a resistor in series, the inductor and resistor serving to reduce radio interference.

2. A rotor arm for an ignition distributor comprising an insulating body adapted for connection to a rotatable spindle, a contact piece carried by the body and adapted to contact a plurality of fixed contact piece in turn as the arm rotates, and a printed circuit on said body, the printed circuit including a central zone for engagement by a brush connected to an ignition coil, together with a conductor connecting the central rotor to the contact piece and shaped to define an inductor and a resistor in series, the inductor and resistor serving to reduce radio interference, and the arm further including a disc of ferromagnetic material insulated from the printed circuit for increasing the inductance of said inductor.

3. A rotor arm for an ignition distributor comprising an insulating body adapted for connection to a rotatable spindle, a contact piece carried by the body and adapted to contact a plurality of fixed contact pieces in turn as the arm rotates, and a printed circuit on said body, the printed circuit including a central zone for engagement by a brush connected to an ignition coil, together with a conductor connecting the central rotor to the contact piece and shaped to define an inductor and a resistor in series, the inductor and resistor serving to reduce radio interference, the rotor arm further including a core of ferromagnetic material extending through but insulated from the printed circuit for increasing inductance of said inductor.

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