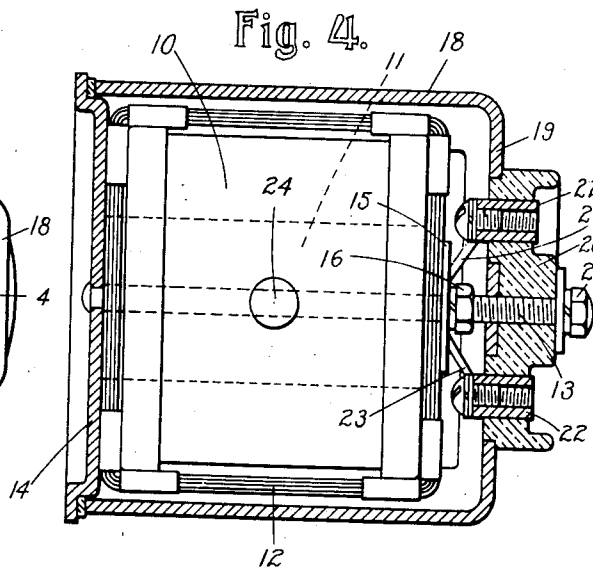
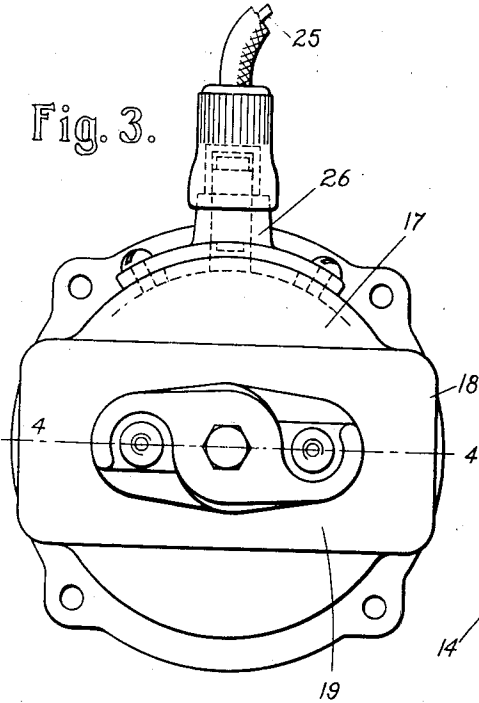
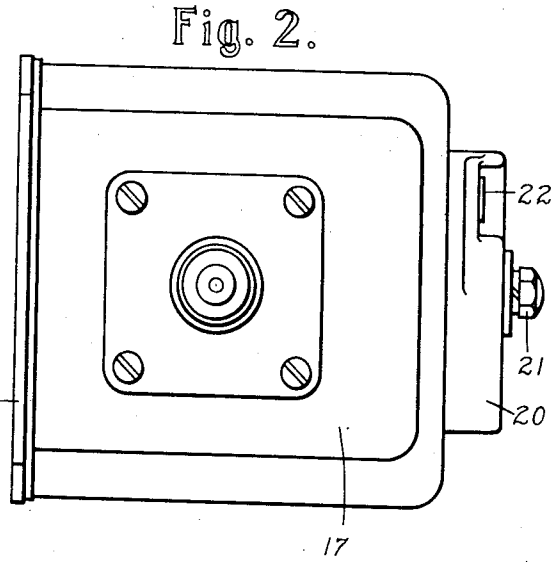
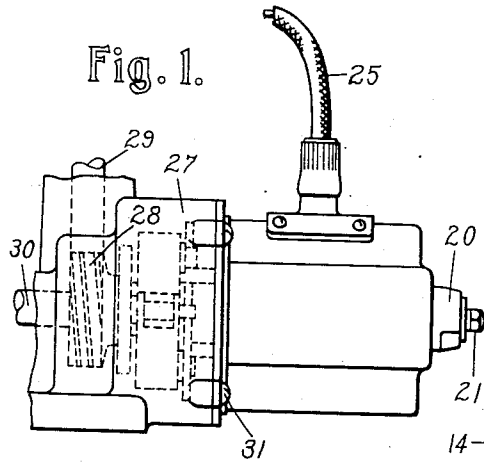


F. F. DORSEY.
IGNITION APPARATUS.
APPLICATION FILED JULY 26, 1917.

1,405,979.

Patented Feb. 7, 1922.



Inventor:
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UNITED STATES PATENT OFFICE.

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IGNITION APPARATUS.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FARNUM F. DORSEY, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Ignition Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to ignition-apparatus such as is used in connection with internal-combustion engines, and particularly to the means for mounting and incasing the induction-coil constituting a part of such apparatus.

The object of the invention is to provide, in a simple and convenient manner, for supporting and protecting the induction-coil of high-tension ignition-apparatus, and more particularly to produce a structure in which a coil-cover or casing formed integrally of drawn sheet-metal or other suitable material may be used.

To the foregoing end the invention consists in the construction hereinafter described, as it is defined in the appended claims.

In the accompanying drawings Fig. 1 is a side-elevation of parts of an ignition-apparatus embodying the present invention, including the coil-cover and part of the casing enclosing the actuating-mechanism of the apparatus. Figs. 2 and 3 are, respectively, a plan-view and an end-elevation of the coil-cover and base-plate, on a larger scale than Fig. 1; and Fig. 4 is a plan-view of the induction-coil, together with the cover and the base-plate, and the last two parts being shown in section on the line 4—4 in Fig. 3.

The invention is illustrated as embodied in apparatus in which the induction-coil is of a form provided with a substantially closed magnetic circuit or core. The windings of the coil surround a straight central core-member 11 which is embraced in a ring-like yoke-member 12. The parts of the coil are held together by a tie-rod 13 which passes centrally through them, and this same tie-rod is employed as the means for fixing the coil to a generally circular base-plate 14, the tie-rod being shouldered and headed on opposite sides of the base-plate, as shown in Fig. 4, while the outer extremity of the

yoke-member is engaged by a disc 15 on the tie-rod, which is held in place by a nut 16 threaded on the rod.

The coil is enclosed by a cover 17 of a cup-like general form. Where a coil with closed magnetic circuit, as shown, is used, it has been found practicable to make the cover 17 and the base-plate 14 of metal, and the form of these parts is such that they may conveniently be formed integrally of sheet-metal, by suitable stamping and drawing operations, thus producing a casing which is at once strong, compact and inexpensive.

The casing is generally cylindrical, so as to conform to the shape of the coil, but is provided at the sides and the end with enlargements 18 and 19, the enlargements 18 serving to receive the lateral portions of the yoke-member 12, while the enlargement 19 provides space for the connection of the primary terminals of the coil.

For insulation of the primary terminals a block 20 of suitable insulating-material is mounted at the outer side of the cover, and is perforated to receive the tie-rod 13, the block being held in place by a nut 21 on the tie-rod. Through the same means the cover is retained in place against the base-plate 14, and to make a water and air-tight joint at this point a gasket may be interposed between the parts, as shown in the drawings.

The terminal-block 20 is provided with inserts 22, which have screw-threaded holes to receive binding-screws by which the terminal-wires 23 of the primary winding of the coil may be connected with the inserts. Connection with external conductors may be made in the same manner.

The insulated secondary terminal 24 of the coil is arranged on the upper surface thereof, and it may be connected in any suitable manner with an external conductor 25, the cover being shown as provided with an insulating-block 26 upon which a binding-post of ordinary form may be mounted, as shown in dotted lines in Fig. 3.

The coil is shown as associated with mechanism by which the circuit-controller (not shown) of the ignition-apparatus is actuated. This mechanism comprises a drive-shaft 30 connected, by gears 28, with a driven shaft 29, and the gears and other parts of the actuating-mechanism are enclosed within a casing 27. To afford access to the interior of the casing it is necessary

to provide it with a removable closure, and in the present construction the base-plate 14 is employed for this purpose, being secured removably to the casing by screws 31 passing through perforated lugs on the base-plate. The base-plate thus performs the double function of closing the casing 27 and also the cover 17.

The arrangement of the coil within the casing with its axis horizontal permits a convenient location of the terminals of the coil, particularly the secondary terminal, from which the conductor 25 may be extended directly upwardly to the distributor.

The invention is not limited to the embodiment thereof hereinbefore described and illustrated in the accompanying drawings, but it may be embodied in various other forms within the scope of the following claims.

The invention claimed is:

1. Ignition-apparatus comprising a casing

having an opening; a base-plate removably fixed to the casing to normally close said opening; a cup-like cover mounted on and closed by the base-plate; and an induction-coil enclosed within the cover.

2. Ignition-apparatus comprising a casing having a lateral opening; a base-plate removably fixed to the casing over said opening; a cover mounted on the outer side of the base-plate; and an induction-coil enclosed within the cover and arranged with its axis normal to the base-plate.

3. Ignition-apparatus comprising: an induction-coil; a cup-like drawn sheet metal cover enclosing the coil; a base-plate covering the open end of the cover; a terminal-block seated on the closed end of the cover; and a tie-rod passing axially through the coil, the cover, the base-plate and the terminal-block and securing all of these parts together.

FARNUM F. DORSEY.