

A. SCHMIDT.

MAGNETO.

APPLICATION FILED MAR. 25, 1911.

1,026,054.

Patented May 14, 1912.

2 SHEETS—SHEET 1.

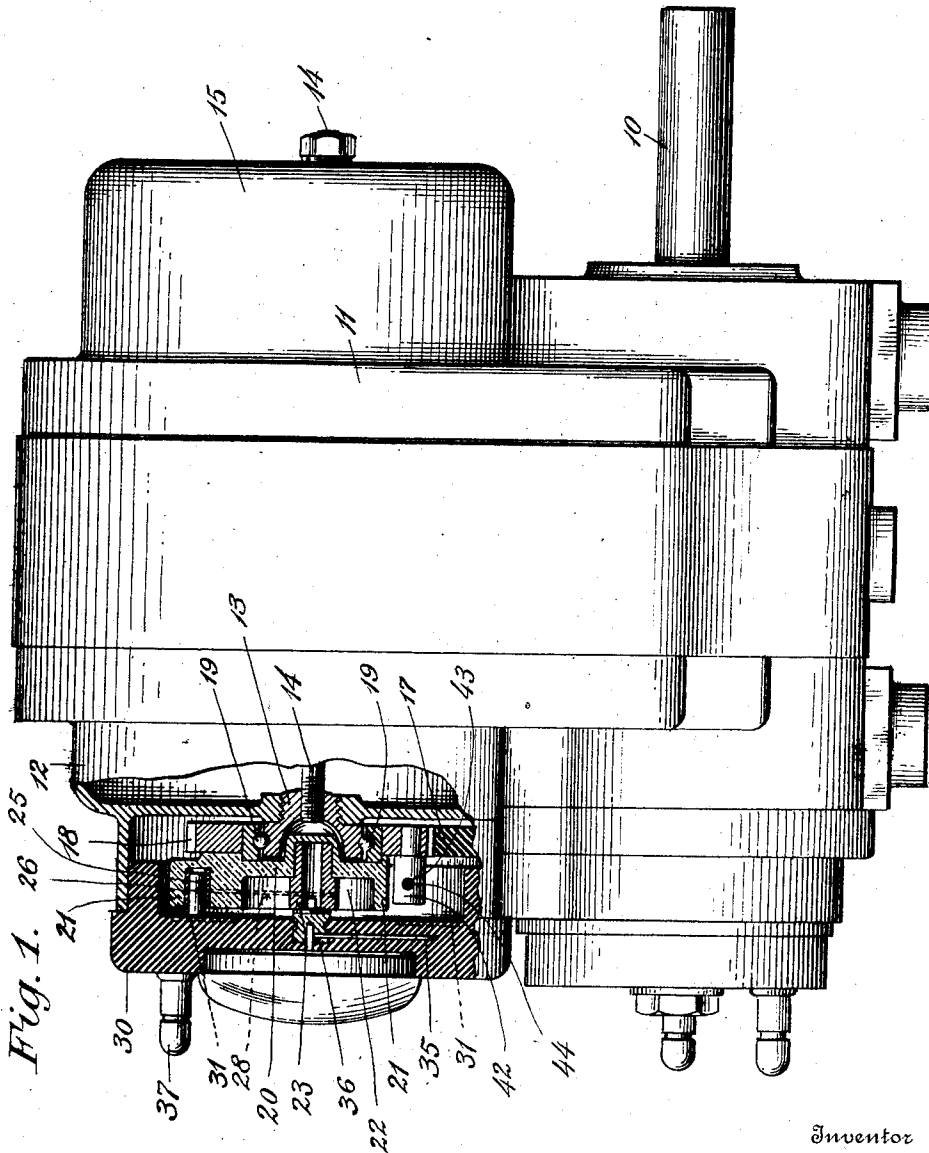


Fig. 1.

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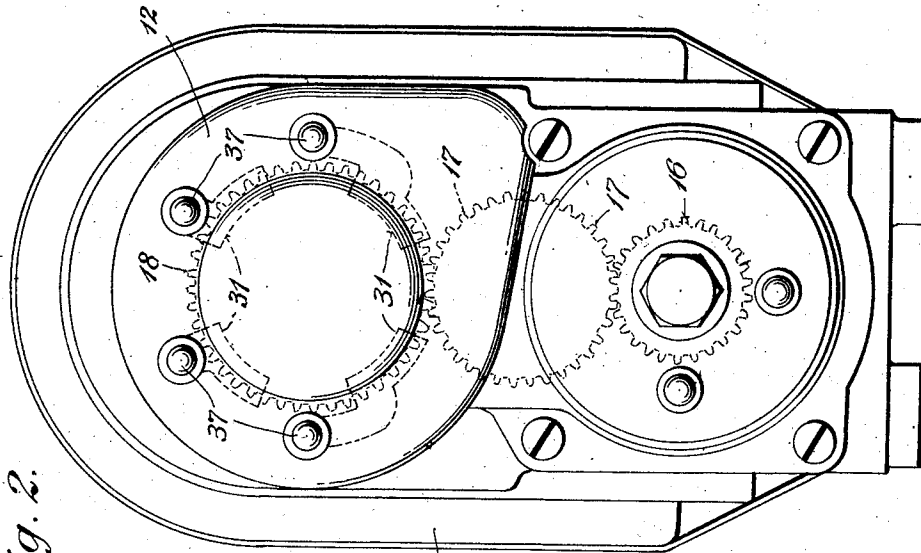


Fig. 2.

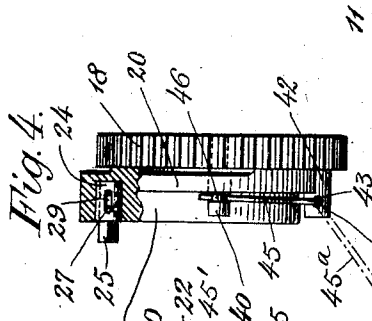


Fig. 4.

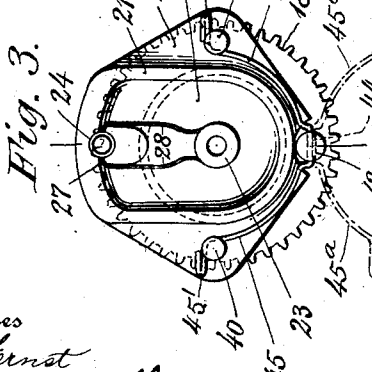


Fig. 3.

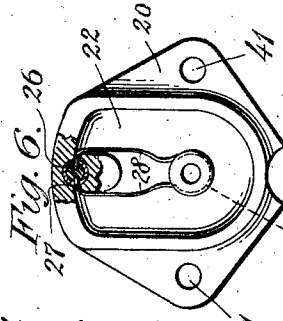


Fig. 6.

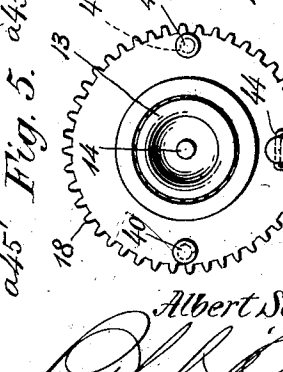


Fig. 5.

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UNITED STATES PATENT OFFICE.

ALBERT SCHMIDT, OF FLINT, MICHIGAN, ASSIGNOR TO CHAMPION IGNITION COMPANY, OF FLINT, MICHIGAN, A CORPORATION OF MICHIGAN.

MAGNETO.

1,026,054.

Specification of Letters Patent.

Patented May 14, 1912.

Application filed March 25, 1911. Serial No. 618,965.

To all whom it may concern:

Be it known that I, ALBERT SCHMIDT, a citizen of the United States of America, residing at Flint, in the county of Genesee and State of Michigan, have invented certain new and useful Improvements in Magneto, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to magnetos, and it has for its object the improved construction of the current-distributing member thereof, as will be hereinafter described and defined in the claims.

The invention has been clearly illustrated in the accompanying drawings, in which similar characters denote similar parts, and in which—

Figure 1 is a side view of a magneto embodying the invention; Fig. 2 is an end view thereof; Fig. 3 is a front view of the current-distributing member with its driver; Fig. 4 is a side view of the same; Fig. 5 is a face view of the driver, *per se*, and Fig. 6 is a front view of the distributor *per se*.

Referring to the drawings, the magneto comprises an armature shaft 10, the magnet 11, and a distributing mechanism disposed in a casing 12 at one side of the magnet, and provided with a central bearing-member 13. A tie rod 14 extends from the member 13 to the outer face of a coöperative casing 15 disposed at the other side of the magnet, both casings being thus held firmly in place.

The armature-shaft 10 has a pinion 16 (see Fig. 2) in engagement with an insulated intermediate 17, which actuates a gear 18 journaled on the bearing member 13 above mentioned, through balls 19. This gear 18 constitutes the driver for the distributing member which is normally rigidly secured thereto, but may, by virtue of my improved construction be readily removed therefrom when desired.

In its preferred form shown, this distributor consists substantially of a plate 20 made of insulating material and having a portion of its central portion inclosed by a flange 21 which forms a central pocket 22. Disposed within this pocket, and firmly secured to the plate 20, is a metallic plug 23, and housed within the upper portion of the flange 21 is a bearing-bushing 24 adapted to receive a slidable stub-brush 25, made of carbon or the like and having at its diamet-

rically opposite sides apertures 26 (see Fig. 6) which are adapted to receive the bent-over ends 27 of a two-arm resilient wire spring 28, these ends 27 passing through slots 29 (see Fig. 4) formed in the stationary bushing 24.

The central loop portion 28' of the spring is rigidly secured to the plug 23, the entire organization being such that the spring will serve not only as a means for normally pushing the brush 25 outward into the position shown in Fig. 4, but also as a conductor for electrically connecting said plug and brush.

Seated within the end of the casing 12, is a contact-disk 30 which is made of insulating material and has a number of spaced contact-plates 31, proportionate to the number of cylinders and the rotational speed of the engine shaft and of the distributor-driver 18. The plates are disposed concentric with the axis of rotation of said driver 18, so that the revolving brush will contact with the plates successively.

Electric current is supplied through a conductor 35 embedded within the contact disk 30 and connected with a metallic center 36 which in turn is in permanent metallic contact with the plug 23. As the brush 25 is revolved, electric current is supplied to the several contact-plates 31, which are respectively connected with binding posts 37 from which conductors may lead to the spark plugs of the engine cylinders. It will therefore be seen that all leakage of current into the magneto-frame is prevented.

One of the principal features of the present invention pertains to the construction of the distributing member which, as has been stated, comprises the insulating plate 20, with the several metallic and electrically-connected plug 23, spring conductor 28, and brush 25, all assembled as a unit which may be bodily attached to or detached from the driving gear 18. To this end the gear 18 has a pair of dowel-pins 40 fitting into apertures 41 of the insulating plate 20. A third pin or stud 42 also held in said gear 18 has a perforation 43 within which is pivotally supported the straight arch-portion, 44, of a bow spring comprising a pair of resilient arms 45. The free ends 45' of these arms are bent outward (see Figs. 3 and 5) and adapted to be sprung into notches or grooves 46 found in the studs 40, it being understood that "headed" studs

will answer the same purpose. The bent-over ends 45' of the bow-spring serve as finger pieces whereby the bow-arms may be sprung inward to free them from the studs 5 40, and the bow-spring may then swing forward and downward (see dotted lines *a* in Figs. 3 and 4), whereupon the insulating plate 20 will be free to be removed.

It should be understood that many 10 changes may be made in the particular construction and organization of my improved device, without departing from the spirit of the invention.

I claim:

15 1. In a magneto, a distributing mechanism comprising a contact disk having an insulated contact plate, a rotatable member of insulating material, a brush movable in said member, and a two-arm bow spring detachably secured on the face of said member 20 for moving said brush into coöperation with said contact plate.

2. In a magneto, a distributing mechanism comprising a contact disk having an 25 insulated contact plate, a rotatable member of insulating material, a brush movable in said member, and a two-arm spring detachably secured to the face of said member, en-

gaging opposite sides of said brush for moving said brush into coöperation with said 30 contact plate.

3. In a magneto, the combination with the armature shaft, of a distributing mechanism comprising a driver operable by said shaft, a pair of pins on said driver, an apertured 35 plate of insulating material on said pins, a bow-spring engaging said pins and detachably holding said plate thereon, and electrically connected contacts carried by said plate.

4. In a magneto, the combination with the 40 armature shaft, of a distributing mechanism comprising a driver operable by said shaft, a pair of pins on said driver, an apertured plate of insulating material fitted on said pins, a bow-spring pivotally attached to said 45 driver and engaging said pins and detachably holding said plate thereon, and electrically connected contacts carried by said plate.

In testimony whereof I affix my signature 50 in presence of two witnesses.

ALBERT SCHMIDT.

Witnesses:

B. W. DE GUICHARD

F. J. UTLEY.