Feb. 17, 1931. M. SCHÄFER 1,793,375

CIRCUIT BREAKER FOR IGNITION DEVICES

Filed May 14, 1927

Fig. 1

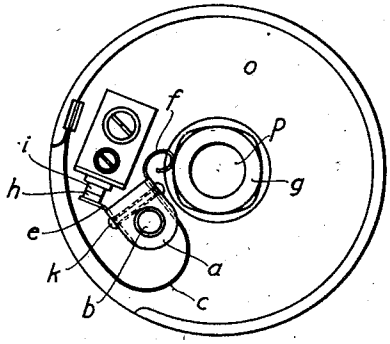


Fig. 2

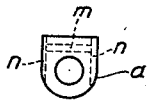
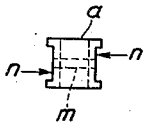


Fig. 3



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UNITED STATES PATENT OFFICE

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CIRCUIT BREAKER FOR IGNITION DEVICES

Application filed May 14, 1927, Serial No. 191,465, and in Germany June 14, 1926.

The invention relates to ignition apparatus for internal combustion engines and more particularly to the contact breaker or timer for periodically interrupting the primary ignition circuit.

The object of the invention is to improve the construction of the breaker arm or lever carrying one of the contacts and adapted to be actuated by a cam. In the most usual constructions this breaker arm consists of metal and a hub of insulating material, by means of which the breaker arm is pivoted upon a stationary stud.

According to the invention, the insulating piece itself is developed as the breaker arm. Hereby the construction is much simplified by the reduction of the number of parts required and the costs of manufacture are lessened. Further the weight of the breaker arm and thereby the interfering action of centrifugal force upon oscillating movements of the breaker arm is reduced. Consequently, the working of the breaker becomes nearly noiseless.

The invention will be apparent from the following description, reference being had to the accompanying drawings, wherein a preferred embodiment of the present invention is shown.

In the drawings:

Fig. 1 is a plan view of a circuit breaker embodying the invention;

Fig. 2 is a plan view of the breaker lever; and

Fig. 3 is an end view of the breaker lever.

In the drawings, *o* indicates the breaker base, supporting the breaker mechanism. This mechanism is comprised of the cam *g*, the movable breaker arm *a* carrying a contact point *h* by means of a clip or spring *e*, and the stationary contact *i*. The cam *g* is arranged upon the end of the shaft *p*, said shaft being part of a magneto or of a distributor. The breaker arm is made of bakelite, fiber or other suitable insulating material. This arm is pivoted upon a stud *b* supported by the base *o*. The bumper is formed of a metal strip or spring *f* bent to form a loop and mounted on the end of the arm *a*. A spring *c* secured with one end to the base *o* and with the other end to the arm *a*, tends to hold the contacts *h* and *i* closed.

As shown in Fig. 1, the three springs *c*, *e* and *f* are attached to the movable breaker arm by means of a single common pin or rivet *k* traversing the said arm. On both sides of this arm rectangular grooves or notches *n* are provided for the reception of the ends of the springs *c*, *e* and *f*.

When the cam *g* is operated by the engine, the contacts *h* and *i* are periodically separated by the action of the cam upon the looped portion of spring *f* and periodically closed due to the action of spring *c* in the well known manner of the circuit breakers of ignition devices.

While the forms of construction illustrated in the drawings and above described are the ones preferred by me in carrying out my invention, it is to be understood that various modifications can be made without departing from the invention as defined in the appended claims.

What I claim is:

1. Circuit breaker mechanism for ignition devices, comprising a stationary contact, a movable member carrying a spring with a cooperating contact and a bumper formed of a metal strip, a cam for operating the movable member, a spring tending to hold the said contacts closed and a pin traversing said movable member for securing said metal strip and springs to said movable member.

2. Circuit breaker mechanism for ignition devices, comprising a stationary contact, a movable member carrying a spring with a cooperating contact and a bumper formed of a metal strip, and a cam for operating the movable member, said movable member having grooves for the reception of the end of the said metal strip and the end of said spring.

In testimony whereof I have hereunto affixed my signature.

MAX SCHÄFER, Ingenieur.