E. J. J. SALMSON.

INTERRUPTING DEVICE FOR MAGNETOS.

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1,291,174.

Patented Jan. 14, 1919.

Fig. 1.

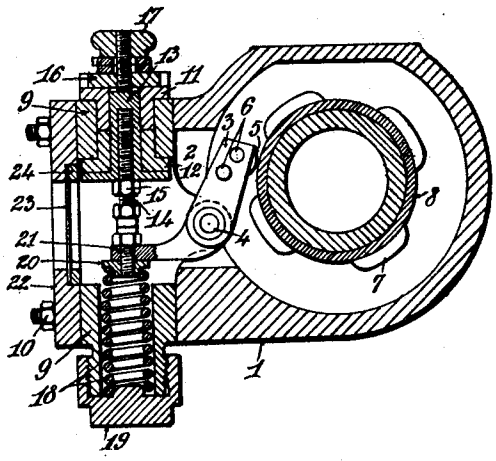


Fig. 2.

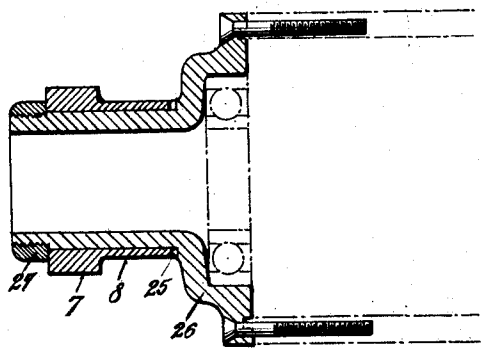


Fig. 3

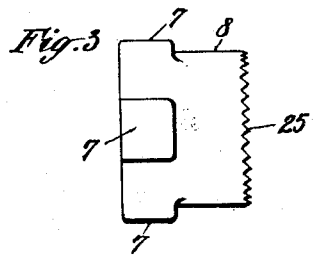
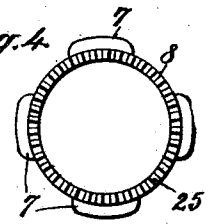


Fig. 4



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INTERRUPTING DEVICE FOR MAGNETOS.

1,291,174. Specification of Letters Patent. Patented Jan. 14, 1919.

Application filed March 27, 1916. Serial No. 87,141.

To all whom it may concern:

Be it known that I, EMILE JEAN JULES SALMSON, citizen of the Republic of France, residing at 9 Avenue des Moulineaux, Billancourt, Seine, in the Republic of France, have invented new and useful Improvements in Interrupting Devices for Magnetos, of which the following is a specification.

This invention has for its object to provide an improved interrupter and method of mounting the cams for magnetos which are particularly applicable to ignition magnetos for internal combustion engines.

According to this invention the interrupting device is mounted entirely in an independent cage, thereby affording great facility for repairs. The return of the platinized screws is assured by an easily adjustable long spring, instead of being effected by a leaf spring as usually employed hitherto. The interrupting device is arranged at the side of the magneto instead of at the end thereof as hitherto, so that the operation can be inspected without trouble through a mica window. Further, the improved method of mounting the cams allows of employing one and the same apparatus for both directions of motion by means of a reversing device capable of being easily operated by the person using the magneto.

This invention will now be more particularly described with reference to the accompanying drawings which illustrate by way of example one form of the invention.

Figure 1 is a vertical cross section through the shaft carrying the cams, so as to show the interrupting device in its entirety.

Fig. 2 is a longitudinal section of the cam shaft, showing more particularly the manner of mounting the cams.

Fig. 3 is a side view of the cam shaft shown separately.

Fig. 4 is an end view thereof.

In the example shown, 1 is the framing of the magneto on the side of which there is provided an aperture 2 for the passage of the finger 3 which is capable of rocking on the axle 4 that is fixed to the frame 9 hereinafter described. One of the ends of this finger is forked and constitutes a cap in which a part 5 of white fiber or other resistant material, is fixed by means of studs 6. This part 5 is designed to engage with cams 7 on the hollow cylinder 8.

On the machined side of the aperture 2 there is fitted a frame 9 attached to the framing by means of stud screws 10. This frame which is generally rectangular in shape is recessed internally for a purpose hereinafter stated. It has a projection to which is fixed the axle 4 on which the interrupter finger can rock. A vertical hole is pierced in the upper and lower sides of the framework constituted by this frame in the longitudinal axis of the latter. The upper hole contains two cylindrical sleeves provided with flanges 11 and 12 of ebonite or other insulating material. Inside these sleeves is a piece 13 of brass or other diamagnetic metal formed at its lower part with an enlarged base adapted to fit upon the sleeve 12, and provided at its upper part with a screw threaded stem. The piece 13 is pierced at its lower part along its axis with a screw threaded blind hole in which fits the screw threaded stem of the platinized screw 14 provided with a hexagonal nut and a lock nut 15. On the upper screw threaded stem of the piece 13 there is fitted a washer 16 and a milled nut 17 which serves to fix to the terminal thus constituted two conducting wires, one leading to the condenser, and the other to the low tension terminal of the magneto.

In the hole pierced in the lower side of the frame there is arranged a coiled spring 18 which is maintained in place by means of a nut 19 screwing upon a screw threaded cylindrical neck formed on the frame 9. The upper end of the spring 18 supports a washer 20 fixed to the finger 3 by means of a platinized screw 21.

Upon the frame 9 there is fitted a cover 22 which is held upon the frame by means of stud screws 10 extending right through the latter. This cover is formed, facing the hereinabove mentioned recess in the frame, with a recess of the same external dimensions but of slightly greater internal dimensions so as to allow of receiving a sheet of mica 23 which is held in place by a frame 24. Through the window thus formed it is possible at all times to observe whether the interrupting device is working properly, and in particular to ascertain whether sparking is taking place.

The mounting of the cams which is one of the characteristic features of this invention, is effected as follows. The tubular part 8 carrying the cams is formed with teeth 25

over the whole of the periphery of its end that is farthest from the cams. These teeth are designed to engage with similar teeth formed on a shoulder of the side piece 26 of the shutter or of the armature according as the magneto is of the rotating shutter or rotating armature type (Fig. 2 shows the side piece of the shutter). A nut 27 screwed on the end of said side piece, fixes the cam-carrying part in an unchangeable position when once the apparatus has been erected. It is sufficient to provide in the part 8 two notches each of which corresponds to one direction of motion, so that by bringing one or the other of said notches opposite a notch in the side piece, the magneto will be rendered capable of revolving in the desired direction corresponding to the adjusted notch. This adjustment may be effected by the person using the magneto and does not require an exact regulation such as can be done only by experts at the factory.

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

1. In an interrupting device for magnetos, a supporting frame formed with a central aperture therein, a detachable frame formed with vertical openings in the upper and lower parts thereof and secured to said supporting frame, a piece of diamagnetic metal mounted in the said upper opening and insulated from the detachable frame, a fixed contacting screw carried by said metal piece, a coil spring mounted in the said lower opening and a rocking interrupting finger carried by the detachable frame and engaging at its contact bearing extremity with the said coiled spring.

2. In an interrupting device for magnetos, a hollow cylinder provided with cams and adapted to be engaged and driven by a rotary part of the magneto, said cylinder being formed with teeth over the whole of the periphery of its end adapted to engage the said rotary part, said rotary part being provided with similar teeth, and means for removably holding the hollow cylinder and the rotary part in engagement, substantially as described and for the purpose set forth.

3. An interrupting device for magnetos comprising a cage arranged at the side of the magneto formed of a frame the upper and lower sides of which are pierced with a vertical coaxial hole, a piece of diamagnetic metal provided in the upper hole of the frame and insulated therefrom, said piece having a screw threaded hole at its lower part and a screw threaded stem at its upper part, a platinized screw fitted in the screw threaded hole, a coiled spring arranged in the lower hole of the frame, a rocking interrupter finger upon which acts the coiled spring, a platinized screw fixed at one end of said finger, and a hollow cylinder provided with cams controlling the interrupter finger, said cylinder being formed with teeth over the whole of the periphery of its end adapted to engage with similar teeth formed on a shoulder of the side piece of the shutter or armature of the magneto, substantially as described and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EMILE JEAN JULES SALMSON.

Witnesses:

ANTOINE LAVOIRE,

CHAS. P. PRESSLY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."