Oct. 25, 1932. R. A. WILKINS 1,884,457

IGNITION DEVICE

Filed Aug. 8, 1930

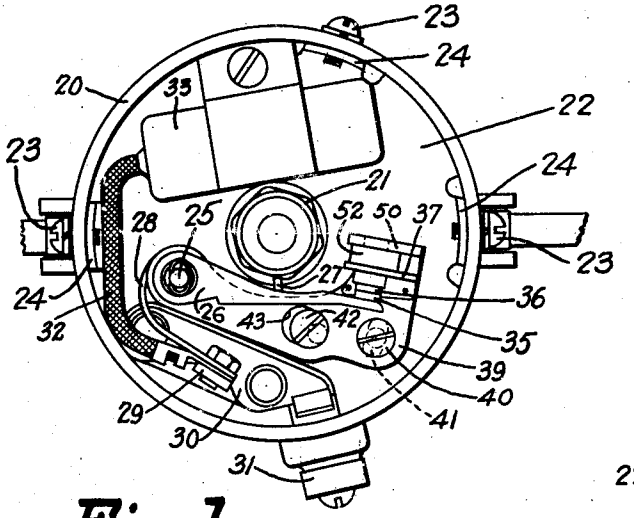


Fig. 1.

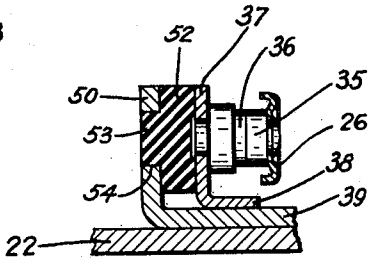


Fig. 3.

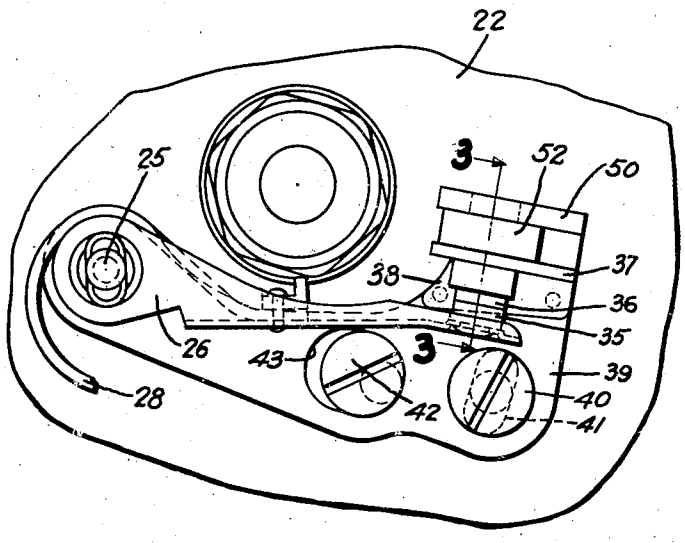


Fig. 2.

INVENTOR
RAYMOND A. WILKINS
BY Spencer, Hardman & Fehr
ATTORNEY

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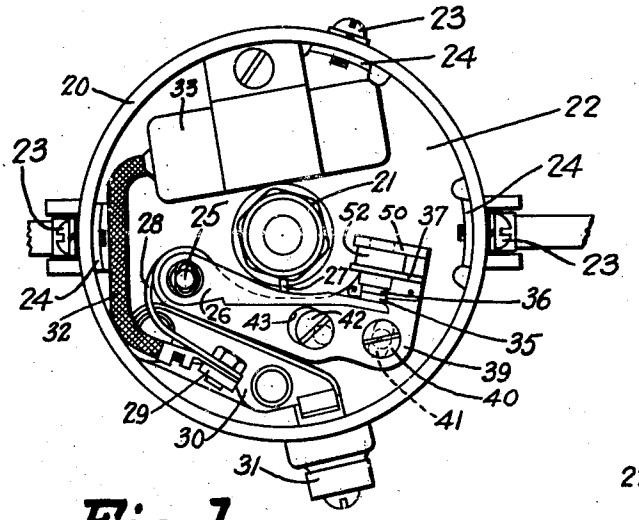


Fig. 1.

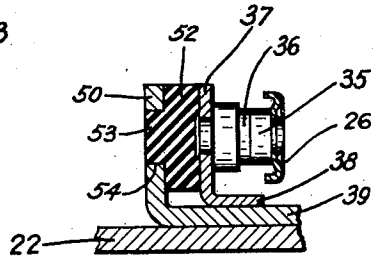


Fig. 3.

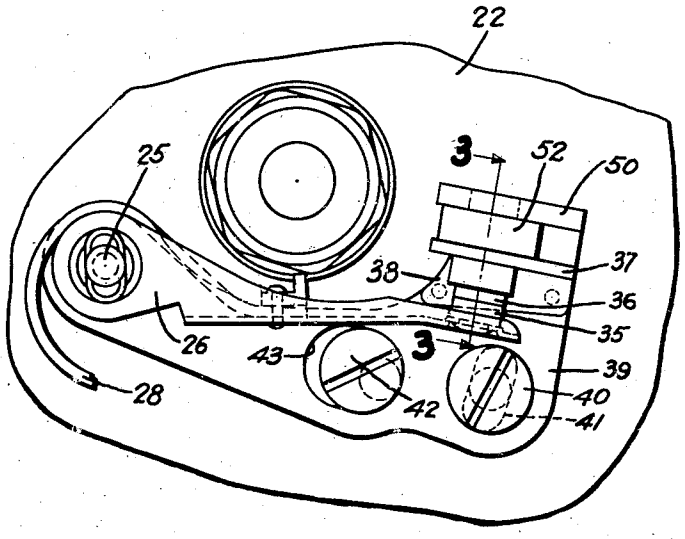


Fig. 2.

INVENTOR
RAYMOND A. WILKINS
BY Spencer, Hardman & Fehr
ATTORNEY

Patented Oct. 25, 1932 1,884,457

UNITED STATES PATENT OFFICE

RAYMOND A. WILKINS, OF ANDERSON, INDIANA, ASSIGNOR TO DELCO-REMY CORPORATION, OF ANDERSON, INDIANA, A CORPORATION OF DELAWARE

IGNITION DEVICE

Application filed August 8, 1930. Serial No. 473,888.

This invention relates to improvements in ignition devices and particularly to the circuit interrupters of said devices.

It is among the objects of the present invention to provide the circuit interrupter of an ignition device with a shock absorbing element whereby bouncing or chattering of the contacts is substantially eliminated.

This object is accomplished by having one of the contact supporting members engaged by resilient means preferably a soft rubber block.

Further objects and advantages of the present invention will be apparent from the following description, reference being had to the accompanying drawing, wherein a preferred embodiment of one form of the present invention is clearly shown.

In the drawing:

Fig. 1 is a plan view of an ignition device with the cover cap removed, the device being equipped with the present invention.

Fig. 2 is an enlarged, detail view of the interrupter mechanism.

Fig. 3 is a detail sectional view taken along the line 3—3 of Fig. 2.

Referring to the drawing the numeral 20 designates the housing of the ignition device, in which an interrupter operating cam 21 is rotatably supported. A plate 22 is secured within the housing 20 by screws 23, which threadedly engage ears 24 provided on a plate 22. The plate 22 carries a post 25 which pivotally supports the interrupter arm or lever 26. This arm or lever 26 has a rubbing block 27 which is urged into engagement with the cam 21 by a spring blade 28, one end of which is secured to the arm or lever 26, the other end being attached to an angular ear 29 formed on the terminal plate 30. Plate 30 is insulatingly carried by the plate 22 and has the terminal 31 electrically connected therewith, which terminal extends through the housing 20 and is insulated therefrom. From the aforegoing, it may be seen that the spring blade 28 acts as a conductor between the terminal plate 30 and the interrupter lever 26, as well as a means for moving the interrupter lever 26 toward the cam 21. The terminal plate 30 is connected through wire 32 with the condenser 33, one side of which is grounded to the plate 22.

A contact 35 is mounted at the free end of the lever 26. This contact is adapted to engage a cooperating contact 36 which is carried by the angular ear 37 of the flexible member 38, which is rigidly secured to the bracket 39. One end of the bracket 39 is pivotally secured to the post 25, the other end being clamped to the plate 22 by the screw 40, the shank of which extends through the elongated slot 41 in the bracket 39 and threadedly engages the plate 22. An adjusting member 42, eccentrically supported upon the plate 22, extends into the elongated slot 43 in the bracket 39, said adjusting member being rotatable to adjust the bracket 39 upon the plate 22 relative to the cam 21 when the clamping screw 40 is released.

Bracket 39 has an angular ear 50 substantially parallel with the angular ear 37 and in spaced relation thereto, as shown in Fig. 3. A resilient member 52, preferably a comparatively soft rubber block, is interposed between the angular ears 50 and 37 of the bracket and flexible member respectively. As shown in Fig. 3 the rubber block has a shank 53 extending into an opening 54 in the angular ear 50 of the bracket 39.

Rotation of the cam 21 will cause its lobes to engage the rubbing block 27 of the interrupter lever 26 and thus move the lever clockwise about the post 25 as regards Fig. 1, thereby, moving contact 35 out of engagement with its cooperating contact 36. When the rubbing block 27 rides off of the peak of the cam lobe, spring 28 quickly moves the interrupter lever 26 counterclockwise, as regards Fig. 1, causing the contact 35 to engage with the contact 36 and thus close the electric circuit therethrough. It has been found that if contacts are mounted upon substantially rigid members, the impacts of the contact engagement will cause bouncing or chattering of said contacts which greatly impairs the production of sparking impulses. In the present invention applicant supports his stationary contact upon a flexible member, which in turn is engaged by a resilient, shock absorbing element. This element will

absorb and dampen the vibration of the stationary contact supporting member caused by being engaged by the contact on the interrupter lever, and thus bouncing and chattering thereof will be substantially eliminated.

While the form of embodiment of the present invention as herein disclosed, constitutes a preferred form, it is to be understood that other forms might be adopted, all coming within the scope of the claims which follow.

What is claimed is as follows:

1. A circuit interrupter comprising, an oscillatable lever; a contact carried by said lever; a bracket having an angular ear; a flexible member secured to said bracket, said flexible member having an angular ear substantially parallel with the angular ear of the bracket; a contact supported upon the angular ear of the said flexible member, engageable by the contact on the lever; and a resilient element interposed between the angular ears of the said bracket and flexible member.

2. A circuit interrupter comprising, an oscillatable lever; a contact carried by said lever, a bracket having an angular ear; a flexible member secured to said bracket, said flexible member having an angular ear substantially parallel with the angular ear of the bracket; a contact supported upon the angular ear of the said flexible member, engageable by the contact on the lever; and a soft rubber block squeezed between the angular ears of the bracket and flexible member.

3. A circuit interrupter comprising, an oscillatable lever; a contact carried by said lever; a bracket having an angular ear; a flexible member secured to said bracket, said flexible member having an angular ear substantially parallel with the angular ear of the bracket; a contact supported upon the angular ear of the said flexible member, engageable by the contact on the lever; and a shock absorbing element interposed between the angular ears of the bracket and flexible member.

In testimony whereof I hereto affix my signature.

RAYMOND A. WILKINS.