Jan. 1, 1952 C. COLVIN ET AL 2,581,077

SPRING SUPPORT FOR IGNITION CIRCUIT BREAKERS

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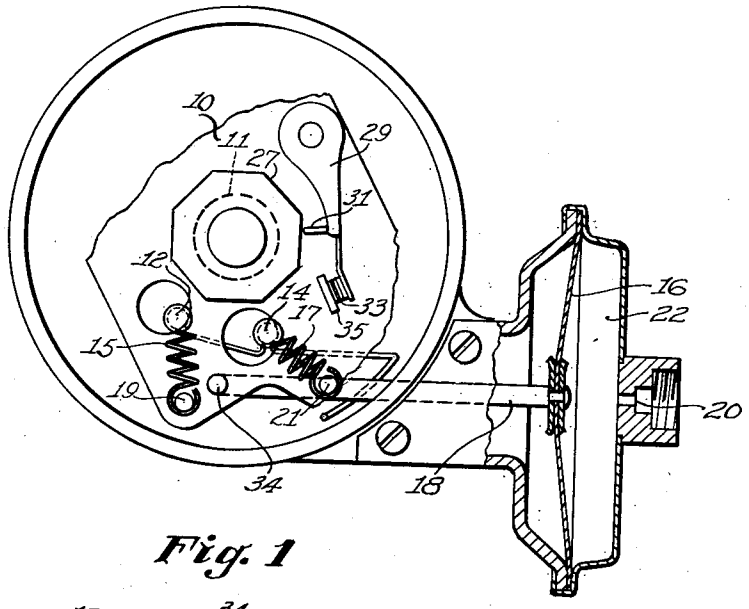


Fig. 1

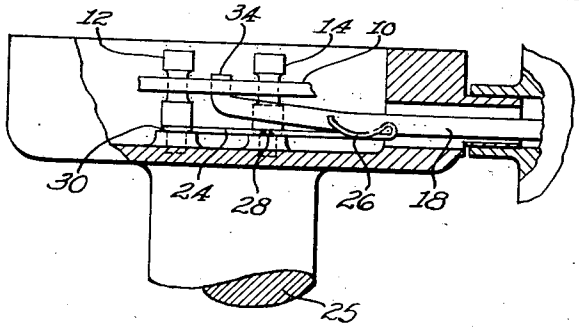


Fig. 2



Fig. 3

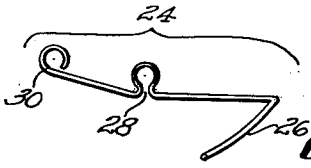


Fig. 4

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SPRING SUPPORT FOR IGNITION CIRCUIT BREAKERS

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1 Claim. (Cl. 200—30)

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The object of this invention is to facilitate the service of an automotive circuit breaker when the circuit breaker plate is removed and replaced. This plate is rotated by a diaphragm a few degrees to advance the spark at high inlet manifold suction acting on a flexible diaphragm. One end of a connecting rod projects through a hole in the plate and is retained by a cotter pin. The insertion and removal of this cotter pin are two difficult operations in the field especially in cold and wet weather. The problem is to remove the circuit breaker and to replace it by another in as few seconds as possible so that the interior would not be long exposed to the atmosphere. An anchor supporting spring acting as a cradle for the free end of the connecting rod solved this problem.

Fig. 1 shows a plan view of the spring cradle supporting the connecting rod.

Fig. 2 shows a view in elevation.

Fig. 3 shows an end view of the cradle with the connecting rod in section.

Fig. 4 shows the spring cradle alone.

In the figures 10 is the circuit breaker plate pivoted in the bushing 11. 12 and 14 are the two anchor pins which serve as anchors to the two restraining springs 15 and 17 which oppose the action of the diaphragm 16 which rotates the plate counter-clockwise by means of the connecting rod 18. The two springs 15 and 17 are connected at their outer ends to the plate 10 by the pins 19 and 21.

Suction from the inlet manifold is transmitted through the opening 20 to the chamber 22. A cam shaft 25 drives the cam 27 which engages with the circuit breaker 29 through the fibre rubbing block 31 and opens the two circuit breaker

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points 33 and 35. The circuit breaker arm 29 is mounted on the plate 10 in a well-known manner.

24 is the anchor spring cradle, the object of this invention. This cradle is made of steel spring wire $\frac{1}{32}$ inch in diameter. The cradle consists of a curved portion 26 on which the rod 18 slides. 28 and 30 are two loops in the spring 24 which serve as the anchor points for the spring cradle 24.

34 is the upturned left end of the connecting rod 18 which is a loose fit in a corresponding opening in the circuit breaker plate 10. When reassembling, the plate 10 pushes the end 34 of the connecting rod 18 down, the spring cradle 24 allowing this to happen. The upward pressure of the end 34 on the plate 10 causes the connecting rod 18 to snap into place once the plate is in alignment.

What we claim is:

In an ignition device a detachable, rotatable ignition circuit plate, a spring engaging said plate, an anchor pin connected to the stationary end of said spring, a flexible diaphragm and a connecting rod leading from said diaphragm to said plate to cause the plate to rotate slightly, the improvement which consists of a spring cradle anchored to said anchor pin and supporting said connecting rod, an upturned end to said rod, an opening in said plate so located that the connecting rod snaps into said opening under the influence of said spring cradle.

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No references cited.