ABSTRACT: A contact breaker assembly in which a plate carries a fixed contact, and an insulating heel member mounted for pivotal movement relative to the plate carries a movable contact which is movable into and out of engagement with the fixed contacts. A spring urges the heel member to pivot in a direction to engage the movable contact with the fixed contact. The movable contact is secured to a metal shell which is engaged with the heel member, and the spring is defined by a metal strip, one end of which is engaged in a groove in the heel member. The metal strip and heel member are provided with means to secure the spring and the shell to the heel member.
CONTACT BREAKER ASSEMBLIES

BACKGROUND OF THE INVENTION

This invention relates to contact breaker assemblies, for use in ignition distributors, of the kind comprising a plate, a fixed contact carried by the plate, an insulating heel member mounted for pivotal movement relative to said plate, a movable contact carried by said heel member and movable into and out of engagement with the fixed contact, and a spring urging said heel member to pivot in a direction to engage the movable contact with the fixed contact.

SUMMARY OF THE INVENTION

According to the invention, the contact breaker assembly comprising a plate, a fixed contact, means mounting the fixed contact on the plate, an insulating heel member, means mounting the heel member for pivotal movement relative to the plate, a movable contact a metal shell engaged with the heel member, said movable contact being carried by the metal shell and movable into and out of engagement with the fixed contact, a spring urging the heel member to pivot in a direction to engage the movable contact with the fixed contact, said spring being the form of a metal strip one end of which is engaged in a groove in the heel member, the metal strip being formed adjacent said one end with a projection which extends through the shell into engagement with the wall of an aperture in the heel member and thereby serves to secure the spring and the shell to the heel member, and the end of the metal strip remote from said one end being anchored to said plate.

BRIEF DESCRIPTION OF THE DRAWINGS

One example of the invention is illustrated in the accompanying drawings wherein:

FIG. 1 is a plan view of a contact breaker assembly,
FIG. 2 is an enlarged perspective view of part of the assembly shown in FIG. 1,
FIG. 3 is a fragmentary perspective view of the spring shown in FIG. 1,
FIG. 4 is a fragmentary sectional view of the assembly shown in FIG. 1 and FIG. 5 is a view similar to FIG. 2 of a modification.

DETAILED DESCRIPTION OF THE INVENTION

Referring to the drawings the contact breaker assembly includes an arcuate plate 10 having at one end thereof a hole. The plate is engaged in use with the timing plate of a distributor and a post 11 extends upwardly from the timing plate through the hole so as to pivotally interconnect the plate 10 and the timing plate. The arcuate plate 10 is formed intermediate its ends with an integral upstanding tag 10a on which is mounted fixed contact 12 of the assembly.

Pivotingly engaged with the post 11 and spaced from the plate 10 by an insulating washer is a molded insulating heel member 13. The member 13 includes a body part 14 of generally rectangular cross section and at one end of the body part 14 is an integral cam follower 15 which extends generally at right angles to the body part 14. At its end remote from the cam follower 15 the body part is formed integrally with a pair of part circular resilient arms 16 which define a passage through which the post 11 extends.

A resilient metal shell 17 of generally inverted U-shaped configuration is engaged as a close fit with the heel member and one of the limbs of the shell 17 is extended to form an arm 18 on which movable contact 19 of the assembly is mounted.

One end of a leaf spring 21 is bent back upon itself and at its extremity is provided with an outwardly extending tag 22. The cam follower 15 of the heel member 13 defines with the body part 14 a groove 23, and the shell 17 is formed with an aperture 24 which, when the shell 17 is engaged with the member 13, is aligned with a bore 25 in the part 14 of the member 13.

In order to assemble the device shown, the shell 17 is first engaged with the member 13. The spring 21 is, at this stage, straight, and its folded-back end is inserted in the groove 23, thereafter the spring 21 is bent to its required shape. Bending of the spring causes the part of the spring within the groove 23 to move against one side of the groove, and the further bending causes the tag 22 to wedge into the hole 24 and bore 25 to hold the assembly in position. Moreover the portion of the spring 21 adjacent the tag 22 urges the adjacent limb of the shell 17 firmly into engagement with the body part 14 of the member 13.

In the modification shown in FIG. 5, the spring 21 is provided with a bifurcated end defining a pair of arms 26, 27 and the tag 22 extends from the base of the bifurcation. The arms 26, 27 are engaged in the groove 23 as in the example shown in FIG. 4.

In both arrangements the end of the spring 21 remote from the heel member 13 is anchored to the arcuate plate 10, and the spring is stressed so as to urge the heel member to pivot in a direction to engage the movable contact 19, into engagement with the fixed contact 12.

I claim:

1. A contact breaker assembly comprising a plate, a fixed contact, means mounting the fixed contact on the plate, an insulating heel member, means mounting the heel member for pivotal movement relative to the plate, a movable contact, a metal shell engaged with the heel member, said movable contact carried by the metal shell and movable into and out of engagement with the fixed contact, a spring urging the heel member to pivot in a direction to engage the movable contact with the fixed contact, said spring being a metal strip one end of which is engaged in a groove in the heel member, the metal strip being formed adjacent said one end with a projection which extends through the metal shell into engagement with a wall of an aperture in the heel member and thereby serves to secure the spring and the metal shell to the heel member, and the end of the metal strip remote from said one end being anchored to said plate.

2. The assembly as claimed in claim 1 wherein said one end of the metal strip is bent back upon itself, with said projection formed at the free end of the portion of the metal strip which is bent upon the remainder of the strip and the bend interconnected said portion and the remainder of the metal strip engaged in said groove in the heel member.

3. The assembly as claimed in claim 1 wherein the said one end of the metal strip is bifurcated so as to provide arms, the free ends of the arms defined at said one end of the metal strip being engaged in said groove in the heel member, and said projection being integral with the metal strip and extending from the metal strip at the root of said arms.