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CIRCUIT BREAKER ARM

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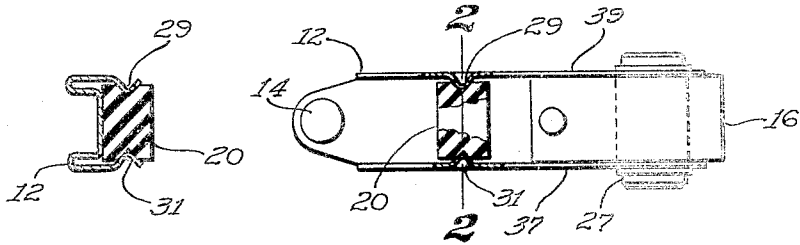


Fig. 2

Fig. 3

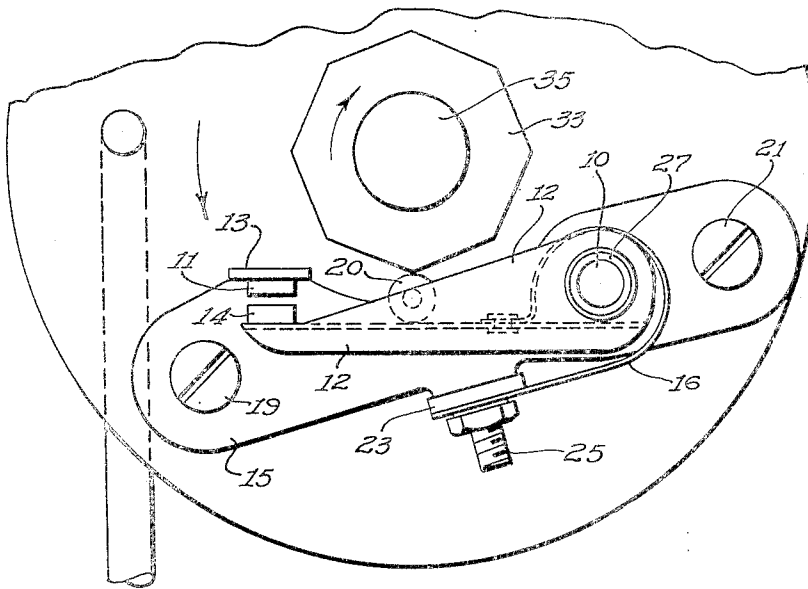


Fig. 1

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CIRCUIT BREAKER ARM

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3 Claims. (Cl. 200—30)

The object of this invention is to facilitate the servicing of a circuit breaker arm in an ignition system now in universal use on automobiles. At the moment, whenever a circuit breaker lever is badly worn, the whole lever is thrown away. If the entire insulated rubbing block could be detached, a suitable saving could be made. Moreover, it is desirable to increase the life of the wearing point so that it does not wear faster than the two tungsten points of contact burn. If the insulated rubbing block could be detached and replaced, a considerable saving could be made. This is not commercially possible with the present construction, as the insulating blocks are riveted to the arm. I have discovered that a rotatable, detachable roller of insulated material will solve the problem.

Figure 1 is a plan view. Figure 2 is a partial cross-sectional elevation on plane 2 of Figure 1. Figure 3 is an elevation of the parts shown in Figure 1.

In the figure, 10 is the pivot on which the circuit breaker arm 12 oscillates, and this arm is made of a stamping. 14 is the movable tungsten contact carried by the arm 12. 11 is the stationary contact (ground) which is carried by an ear projecting from the plate 15 which is adjustably mounted on the adjustable plate 17, indicated by a broken line. Two screws 19 and 21 bolt the circuit breaker arm support 15 to the circuit breaker plate 17. Another ear 23 projects from the plate 15 and to which is connected an electrical connection 25. A spring 16, which is also the conductor, leads current from the connection 25 to the movable tungsten contact point 14. An insulating bushing 27 insulates the pin 10 from plate 15. An insulation (not shown) insulates the electrical conductor 25 from the plate 15. A roller 20 of fiber is held by the indentations 29 and 31 in the walls 37 and 37 which project as ribs stamped from the arm 12 and hold the roller 20 in place (although permitting it to rotate slowly) during the operation of the device. The roller 20 is engaged by a cam 33 driven by a shaft 35 so that the contacts 11—14 are open from time to time.

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Operation

The roller 20 will wear at a low rate of speed so that it will not wear much faster than the contacts 11—14 burn. However, if it must be replaced, it is a simple matter to remove the roller 20 and replace it with a new one.

What I claim is:

1. A stamped metal circuit breaker arm of channel form, the two sides having dependent elements folded back on themselves to provide a lateral spring support, conical projections from said sides, a cylindrical rubbing block, having conical indentations, two corresponding conical depressions in sides of said cylindrical rubbing block into which the conical projections fit.

2. In a device of the character described, a lever, a support therefor, a spring engaging said lever, a contact carried on the end of the lever, a stationary contact with which the movable contact is adapted to engage under the influence of said spring, the improvement which consists of a rotatable, detachable, cylindrical rubbing block adapted to move the contact against the spring, additional spring means for holding the roller in a specific location on the lever and to permit the rubbing block to rotate slowly, and in which the rubbing block has conical, concave indentations and in which the lever has convex conical projections, a yieldable support for said projections, the rubbing block being held in place by the conical projection.

3. In a device of the character described, a lever, a support therefor, a spring engaging said lever, a contact carried on the end of the lever, a stationary contact with which the movable contact is adapted to engage under the influence of said spring, the improvement which consists of a rotatable, detachable, cylindrical rubbing block adapted to move the contact against the spring, additional spring means for holding the roller in a specific location on the lever and to permit the rubbing block to rotate slowly, and in which the rubbing block has conical, concave indentations and in which the lever has convex conical projections, a yieldable support for said projections, the rubbing block being held in place by the conical projection, and in which the rubbing block is made of insulating material.

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