March 12, 1957 R. TOLLEFSEN ET AL 2,784,809

DISTRIBUTOR ROCKER ARM SHOE LUBRICATOR

Filed Sept. 27, 1954

Fig. 1.

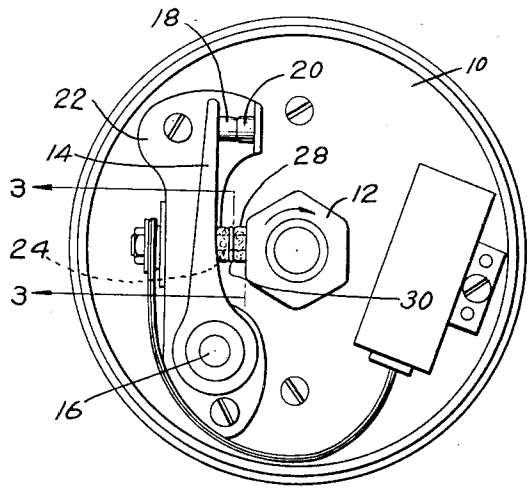
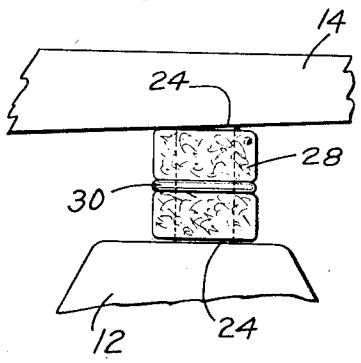


Fig. 2.



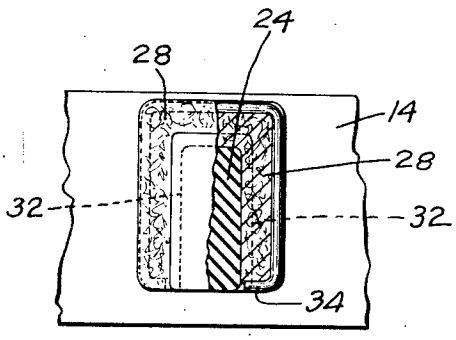


Fig. 3.

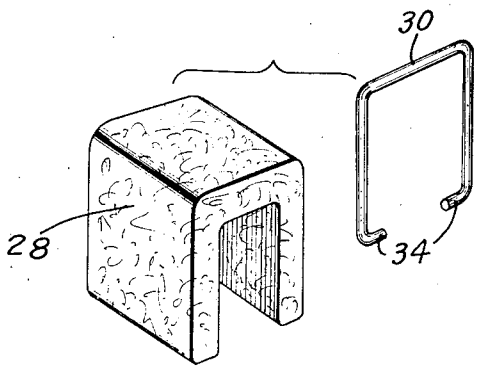


Fig. 4.

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DISTRIBUTOR ROCKER ARM SHOE LUBRICATOR

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2 Claims. (Cl. 184—102)

This invention relates to an improved distributor rocker arm shoe lubricator and has for one of its principal objects the provision of means whereby the block or shoe which contacts the rotating cam of the distributor commonly employed in connection with internal combustion engines will be kept fully lubricated at all times.

One of the important objects of this invention is the construction of a distributor rocker arm shoe lubricator which will eliminate to a great degree the wearing away of certain portions of the construction of the ordinary distributor assembly caused by normal operation, and particularly the rubbing block or shoe, which wear produces a variation in the point settings and resultant faulty ignition.

Another object of the invention is to provide a simple yet efficient lubricator for the rocker arm shoe or block of a distributor assembly which will keep the same fully lubricated all times while not in any way interfering with the normal and efficient operation of the device.

Another and still further important object of the invention is the provision of a continually lubricated rocker arm block or shoe which will eliminate the necessity for frequent adjustments and which will also eliminate practically all of the undesirable unbalance of positive and negative current flow which, to a great degree, causes pitting of the spark distributor points and resultant poor performance.

Yet another object of the invention is to provide a simple, efficient lubricating pad which can be applied to the shoe or block of a distributor assembly and whereby the area of contact between the shoe and the rotating cam will be maintained lubricated at all times, thereby preventing undesirable friction, consequent wear and resultant shortening of the gap between the points of the distributor which causes a retarded spark and makes the motor sluggish.

Other and further important objects of the invention will be apparent from the disclosures in the accompanying drawing and following specification.

The invention, in a preferred form, is illustrated in the drawings and hereinafter more fully described.

In the drawings:

Figure 1 is a top plan view of a representative internal combustion distributor with the cap removed to show interior construction.

Figure 2 is an enlarged detail view showing particularly the rotating cam of the distributor and the lubricated shoe or block of this invention.

Figure 3 is an enlarged section taken on the broken line 3—3 of Figure 1, looking in the direction indicated by the arrows.

Figure 4 is an exploded view illustrating the lubricating pad and its retaining clip, which embodies the preferred construction of this invention.

As shown in the drawings:

The reference numeral **10** indicates generally the base or relatively fixed portion of an automotive distributor element having a central rotating cam **12**, an arm **14** pivoted at **16** for supporting one of the breaker points **18**, the other breaker point **20** being mounted on an adjustable plate **22** fitted into the distributor **10** in the usual manner.

The conventional rocker arm, block or shoe is mounted on the pivoted arm **14** adjacent the cam **12**, as best indicated at **24** in Figures 2 and 3, and this is usually composed of impregnated fibre or some other non-conducting material. It is well known that continuous operating contact of the end of the fibre block or shoe with the cam **12** will cause wear, and it is also well known that it is difficult to keep the respective elements properly lubricated so as to eliminate as much of the wear as possible.

In the construction of this invention, a felt or other lubricating pad, as best shown at **28** in Figure 4, is fastened upon the rubbing block or shoe **24** and preferably by means of a wire spring clip **30**. Both of these elements are U-shaped so as to be readily fitted about the shoe **24** and a slight groove is preferably formed in the shoe as indicated by the dotted lines **32** in Figure 3, whereby closer and better contact between the spring clip **30** and the pad **28** with reference to the shoe **24** is assured. The ends of the spring clip **30** may also be bent inwardly as shown at **34** for a better fitting and a more secure maintaining of the parts in desired position.

When a desired or sufficient amount of lubricant is applied to the pad **28**, a certain amount of it will obviously reach the area of contact between the follower or shoe **24** and the rotating cam **12**, reducing undesirable wear. The lubricant can be applied in sufficient quantities to last quite a long time, and there is little or no danger of the lubricating pad becoming loose or misplaced, which obviously would interfere with proper operation of the apparatus.

It will be evident that herein is provided means for preventing excessive wear of the shoe, block or follower of a distributor assembly, which, in addition to retarding the spark, will tend to cause the primary current to flow longer than it should with the ultimate result of arcing and heating at the points with attendant burning.

It will also be obvious that the device of this invention is simple, inexpensive, and can be readily applied to present distributors as well as to new ones, without difficult mechanical attachments such as screws or the like.

The precise arrangement for supporting the pad or wick is novel, obviously useful, and will assure of longer and more efficient operation with little or no attention beyond the first instalment and consequent application of lubricant.

It will be further evident that due to the close proximity of the oil-bearing wick or pad **28** to the rotatable cam **12**, there will be an actual contact between the pad and the cam during operation, whereby one edge of the pad will act to supply lubricant and the other edge will act as a wiper if an undue amount of lubricant is deposited on the cam. The inturned ends **34** of the clip **30** may be pointed and foreshortened to actually penetrate the material of the pad, thereby providing a further safeguard against accidental dislodgement.

The lubricating pad can be arranged to cover substantially all of one end and both side surfaces of the shoe, with its forward face closely adjacent to the rotating cam **12**, but spaced slightly rearwardly from the cam contacting face of the shoe.

We are aware that many changes may be made and numerous details of construction varied throughout a wide range without departing from the principles of this invention, and we therefore do not propose limiting the patent granted hereon otherwise than as necessitated by the prior art.

We claim as our invention:

1. A distributor for internal combustion engines including a rocker arm, a cam, a shoe on the rocker arm adapted to ride on the cam, and a rocker arm shoe lubricator comprising an absorbent pad, means for fastening the pad to the shoe, said pad being U-shaped, and fitting over the shoe from the top thereof when the shoe is in normal vertical position, said fastening means comprising a U-shaped spring clip having inturned lower ends and a groove in the faces of the shoe for juxtaposed positioning therewith of the spring clip.

2. A device as described in claim 1, wherein the lubricating pad covers substantially all of one end and both side surfaces of the shoe and wherein one face of the pad is closely adjacent the rotating cam of the distributor but spaced slightly away from the cam contacting face of the shoe.

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