

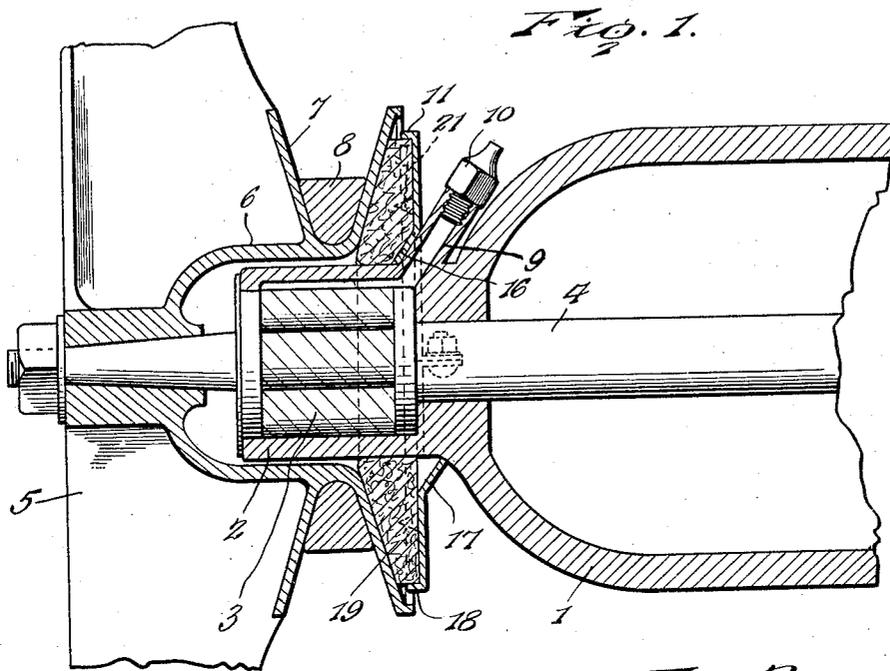
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H. R. SHIFFER

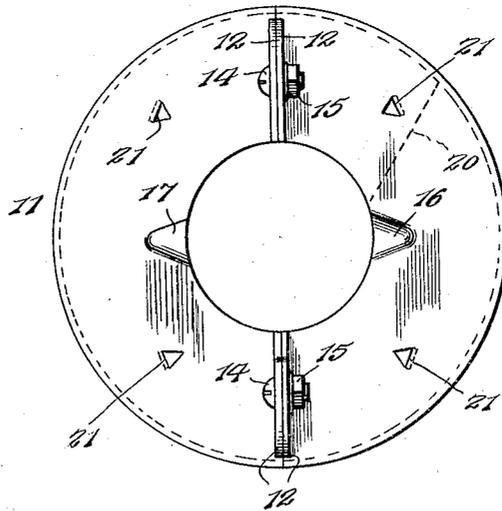
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LUBRICANT RETAINER

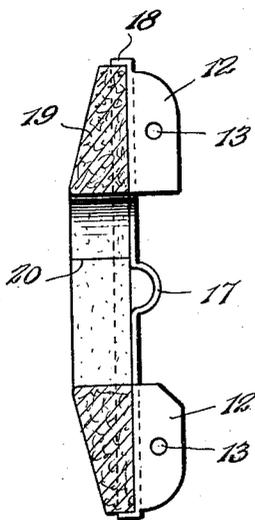
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*Fig. 2.*



*Fig. 3.*



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## LUBRICANT RETAINER

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In a well-known and widely used automobile, there is employed a fan for creating a current of air past the motor to aid in cooling the same. This fan has its hub rigid with a pulley which is driven from the motor and is secured upon the front end of a fan shaft which is journaled in a bearing provided in a casting mounted at the front end of the engine block. The casting is provided with a cup or inlet for lubricant which is disposed immediately back of the pulley and within the fan hub. In use, it has been found that the lubricant works into the hub and thence works backwardly so as to escape at the rear of the pulley, whereupon the centrifugal force exerted by the fan and the pulley will throw the excess lubricant over the adjacent parts of the power plant, and the current of air created by the fan will spread the excess lubricant over the interior of the hood and through the openings therein to collect dust and mar the appearance of the car. This scattering of grease or other lubricant is obviously objectionable, and it is the object of the present invention to provide a very simple and inexpensive device by the use of which the escape of excess lubricant from within the hub of the fan will be prevented. This stated object and other objects which will appear incidentally in the course of the following description are attained in such a device as is illustrated in the accompanying drawing, and the invention resides in certain novel features which will be particularly defined in the appended claims.

In the drawing,

Figure 1 is a longitudinal section of the front end portion of the casting which provides a bearing for the fan, with the hub of the fan and the grease-retaining device in place,

Fig. 2 is a rear elevation of the grease retainer, and

Fig. 3 is a view in edge elevation of one member of the retainer.

In the drawing, the reference numeral 1 indicates the front end portion of the casting having a tubular extension 2 at its front extremity receiving the roller or ball bear-

ing 3. The fan shaft 4 is disposed axially within the casting 1 and extends through a central opening in the front end of the same and through the bearing, as clearly shown in Fig. 1, the fan 5 being secured on the front end of the shaft and being formed with a hub 6 which encircles the bearing 2 and is generally formed integral with the fan pulley 7. The fan pulley receives the fan belt 8 so as to be positively driven when the motor is running. The casting 1 is also formed with an inlet nipple 9 on its upper side at its front end which leads into the bearing 2 so that lubricant may be fed through the nipple to the bearing in an obvious manner, the nipple being normally closed by a plug 10, as shown.

It will be readily observed that there is a considerable space between the casting 1 and the rear side of the pulley and the rear open end of the fan hub through which the grease will escape to be scattered over adjacent parts, unless provision is made to counteract the flow. In carrying out the present invention, I provide a metal disk 11 which may be stamped from sheet metal and, as shown most clearly in Fig. 2, is formed in two halves, each provided on its straight edge with lugs or flanges 12 whereby the disk may be easily fitted about the bearing, the lugs being provided with openings 13 therethrough to receive securing bolts 14 equipped with nuts 15 whereby the halves of the disk may be firmly secured together about the bearing in an obvious manner. One member of the disk is provided with an inturned portion 16, of generally tapered formation, which is adapted to fit around the nipple 9, immediately adjacent the junction of the same with the bearing 2, and thereby aid in holding the disk in place and preventing rotation thereof. The other half of the disk is provided with a similar outstruck portion or tongue 17 which is adapted to bear against the end of the casting 1, as clearly shown in Fig. 1, and thereby resist rearward movement of the disk, while the lugs 12 may be given an outline permitting them to bear against the casting and aid in maintaining the disk in proper position. An

annular flange or rim 18 is formed around the peripheral edge of the disk and extends toward the fan pulley 7 to aid in retaining a felt washer or block 19 in place. This felt washer or block is suitably shaped to fit snugly between the disk 11 and the fan pulley, as clearly shown in Fig. 1, and completely fill the space around the box 2, it being particularly noted that the thickness of the washer, at its lesser outer edge, is greater than the depth of the flange or rim 18, so that a portion of the washer will project beyond the flange or rim and wearing contact between the pulley and the rim will be prevented.

The washer 19 may be secured to the backing disk 11 by being merely glued thereto, and it may be formed in two halves, each corresponding to one member of the disk, as will be understood. I have shown the washer, however, as being split, as indicated at 20, whereby it may be easily fitted about the bearing box 2, and have shown the backing disk as provided with struck up tongues 21 at various points adapted to penetrate the washer so that the washer will be held firmly in its proper relation to the pulley and the backing disk.

It will be seen at once that any lubricant which may find its way out of the bearing 3 and around through the hub 6 to the open rear end of the same will be checked in its flow by the absorbent washer 19 and will, consequently, be prevented from scattering over any of the adjacent parts of the power plant. By preventing this scattering of lubricant, waste of lubricant is overcome and the cleanliness of the power plant is enhanced, so that the cost of maintenance is reduced. The device is exceedingly simple and inexpensive, and it may be readily fitted in place without requiring the services of skilled mechanics or the use of special tools.

Having thus described the invention, I claim:

1. A grease-retaining device for use upon a bearing having a filling nipple and between said bearing and a pulley rotating about the same, said device comprising an absorbent washer shaped to fit closely to the bearing and the pulley, and a backing disk supporting the washer, the washer and the disk having central openings to receive the bearing and the disk having an inset portion at its inner periphery to span the filling nipple whereby the grease-retaining device will be held against rotation relative to the bearing.

2. A grease-retaining device for application between a casting including a bearing box equipped with a filling nipple leading into the rear end of said box, and a pulley having a hub encircling the bearing box, said grease-retaining device consisting of an absorbent washer shaped to fit snugly around

the bearing and against the pulley, and a backing plate carrying said washer and having an inset portion fitted to the filling nipple and an outwardly extending portion bearing against the end of the casting whereby rotation of the backing plate and the washer will be prevented.

3. A grease-retaining device for the purposes stated comprising an absorbent washer, a backing disk consisting of two semi-circular members having recesses in their inner peripheries to fit around a bearing each provided with elements to penetrate the washer and prevent relative rotation of the same, mating lugs on the members of the disk, and fastening devices engaged through said lugs, one member of the disk having an inset portion at its inner periphery, and the other member of the disk having a similar outset portion at its inner periphery adapted to engage parts supporting a bearing about which the disk is fitted to prevent relative rotation and sidewise movement of the disk.

In testimony whereof I affix my signature.

HARRY R. SHIFFER. [L. s.]