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## PATENT SPECIFICATION



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351,374

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COMPLETE SPECIFICATION.

### Improvements in Ball Bearing Protecting Devices.

I, ADOLPHE KEGRESSE, a French Citizen, of 156, rue Armand Silvestre, Courbevoie, France, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

It is well known that an efficacious protection of ball bearings against the introduction of outer dust is very difficult to construct, especially when these ball bearings have to work quite near the ground, or in marshes, mud, dust or the like.

The present invention comprises a ball bearing protecting device wherein a sleeve of felt or of any other similar material is mounted on circular and parallel ribs provided on a collar fixedly attached to the axle, said sleeve being covered with a flexible material, such as leather, and the said flexible material being fixed tightly on the portion of the device that rotates relatively to the axle.

In the accompanying drawings, by way example,

Figure 1 is a view showing a construction of the device,

Figure 2 is a section along the line A—B of Figure 1.

The ball bearing is fitted as usual. Its outer race 1 (Figure 1) is mounted in the hub 2, which rotates, while the inner race 3 is secured to a socket 4 (Figures 1 and 2) by means of the axle 5, axle-sleeve 6 and abutment 7.

This abutment carries a collar provided with circular and parallel ribs on which is mounted a felt sleeve 8 or a sleeve of other material.

On this sleeve 8 is adjusted a rectangular sectioned annular piece of leather 9 (Figures 1 and 2), which is also fixed on the hub 2 by means of the screws 10. One or more spiral springs 11 force the leather 9 inwardly in order to guarantee a perfect fit where the leather passes over the sleeve 8, to ensure the driving of the latter by the former.

When the device is to be protected against hard objects from outside, an embossed piece of plate 12 is used which

serves at the same time as a washer for securing the piece of leather 9. Also, a cup-shaped plate 13 is fixed on the non-rotating part 4, with a slight clearance between it and the part 12.

It will be seen that the tightness of the device is secured on one side by the sleeve 8 which, owing to its flexibility, applies firmly on the parallel circular ribs of the abutment 7 and on the other by the leather piece 9, as the two pieces 12 and 13 only ensure a rough protection against outer objects.

Besides its tightness, the arrangement, owing to the flexibility of the leather-piece 9, presents the great advantage of affording a slight axial displacement of the axle in respect to the hub, without causing the internal oil to be drawn out by capillarity, nor external objects entering, as happens with the ordinary protecting devices.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A ball-bearing protecting device, wherein a sleeve of felt or of any other similar material is mounted on circular and parallel ribs provided on a collar fixedly attached to the axle, said sleeve being covered with a flexible material, such as leather, and the said flexible material being fixed tightly on the portion of the device that rotates relatively to the axle.

2. A construction of the device according to Claim 1, wherein tightness between the flexible material and the sleeve, as well as the driving of the latter through the former, is secured by means of one or more spiral springs.

3. A ball-bearing protecting device, according to Claim 1 and Claim 2, wherein a rough external protection is realised by means of parts of rigid material.

4. A ball-bearing protecting device substantially as described or substantially as shown in the accompanying drawings.

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Dated this 11th day of November, 1930.

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*[This Drawing is a reproduction of the Original on a reduced scale.]*

Fig. 1.

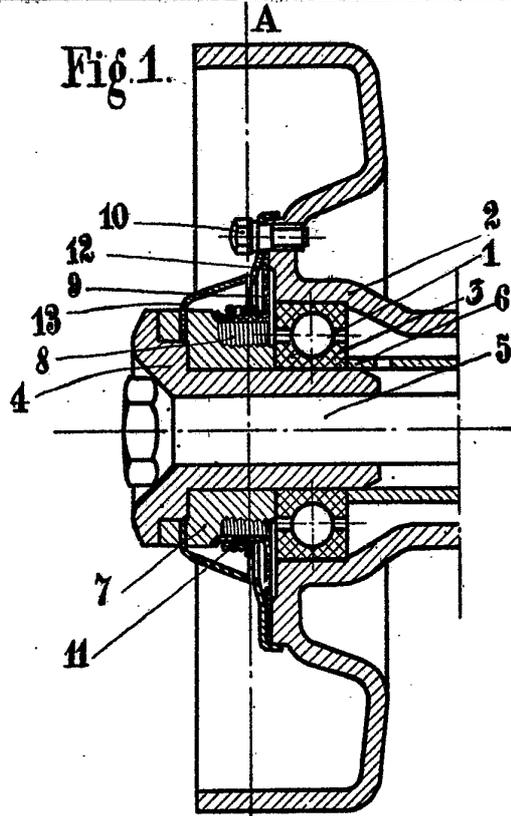


Fig. 2.

