July 12, 1938. P. H. CONRADSON 2,123,168

LUBRICATING DEVICE

Filed Feb. 3, 1937

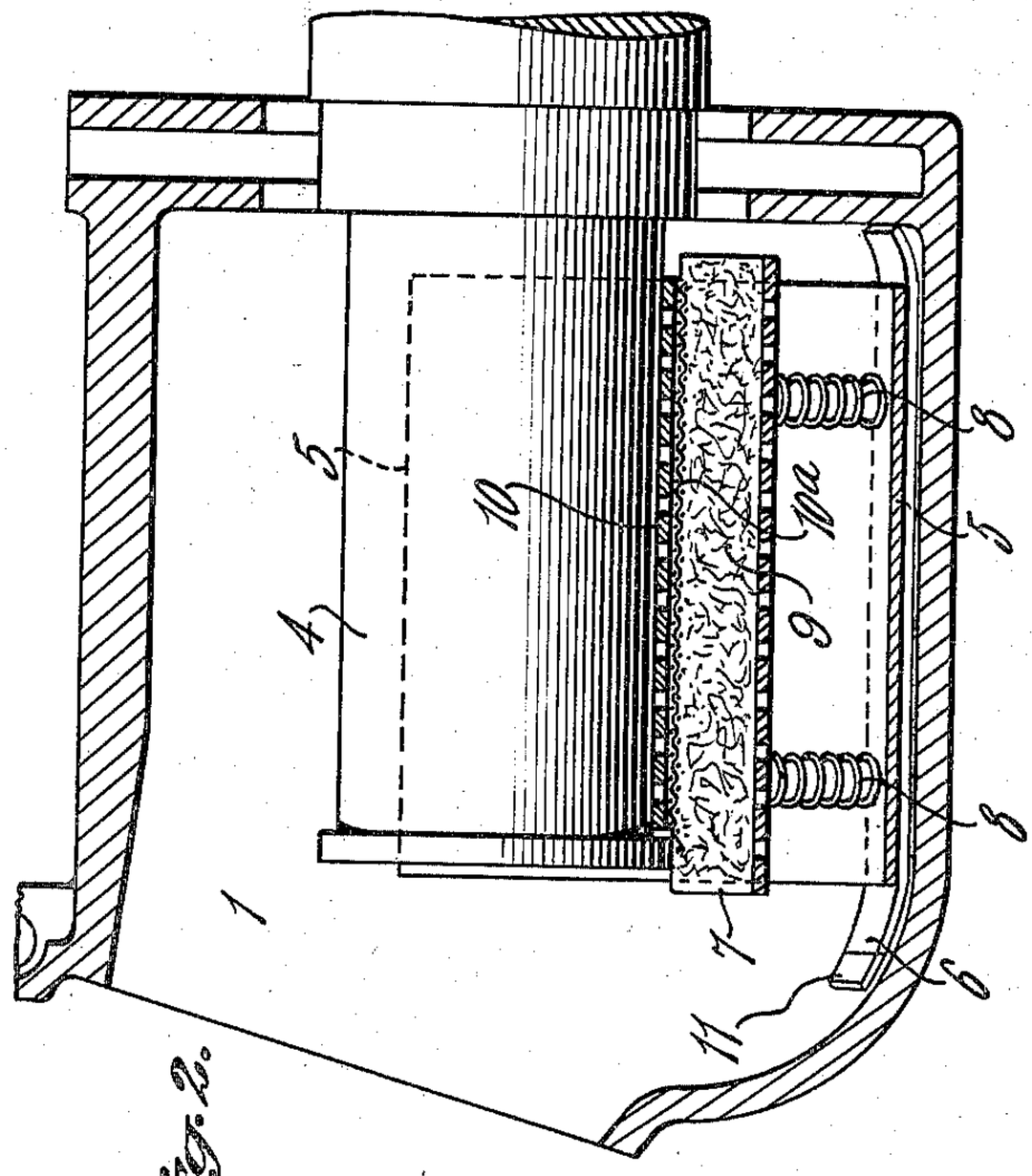

Fig. 2.

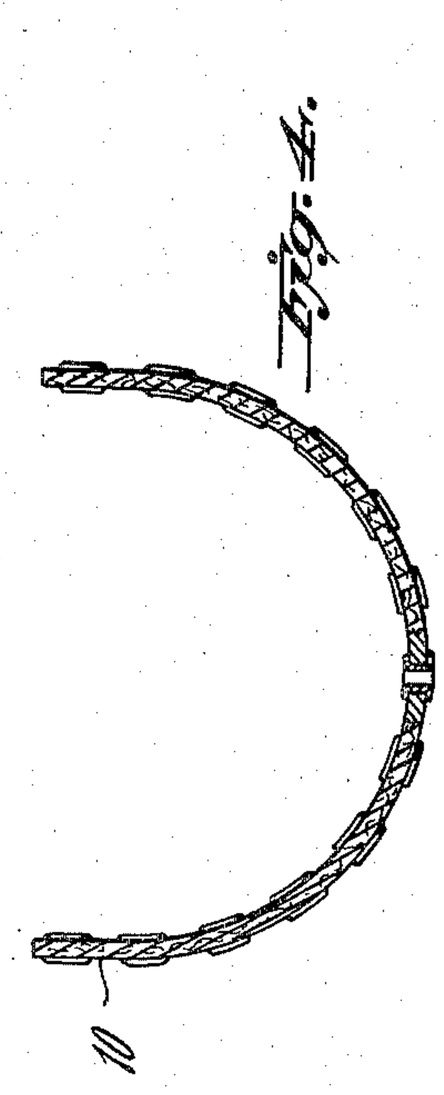

Fig. 4.

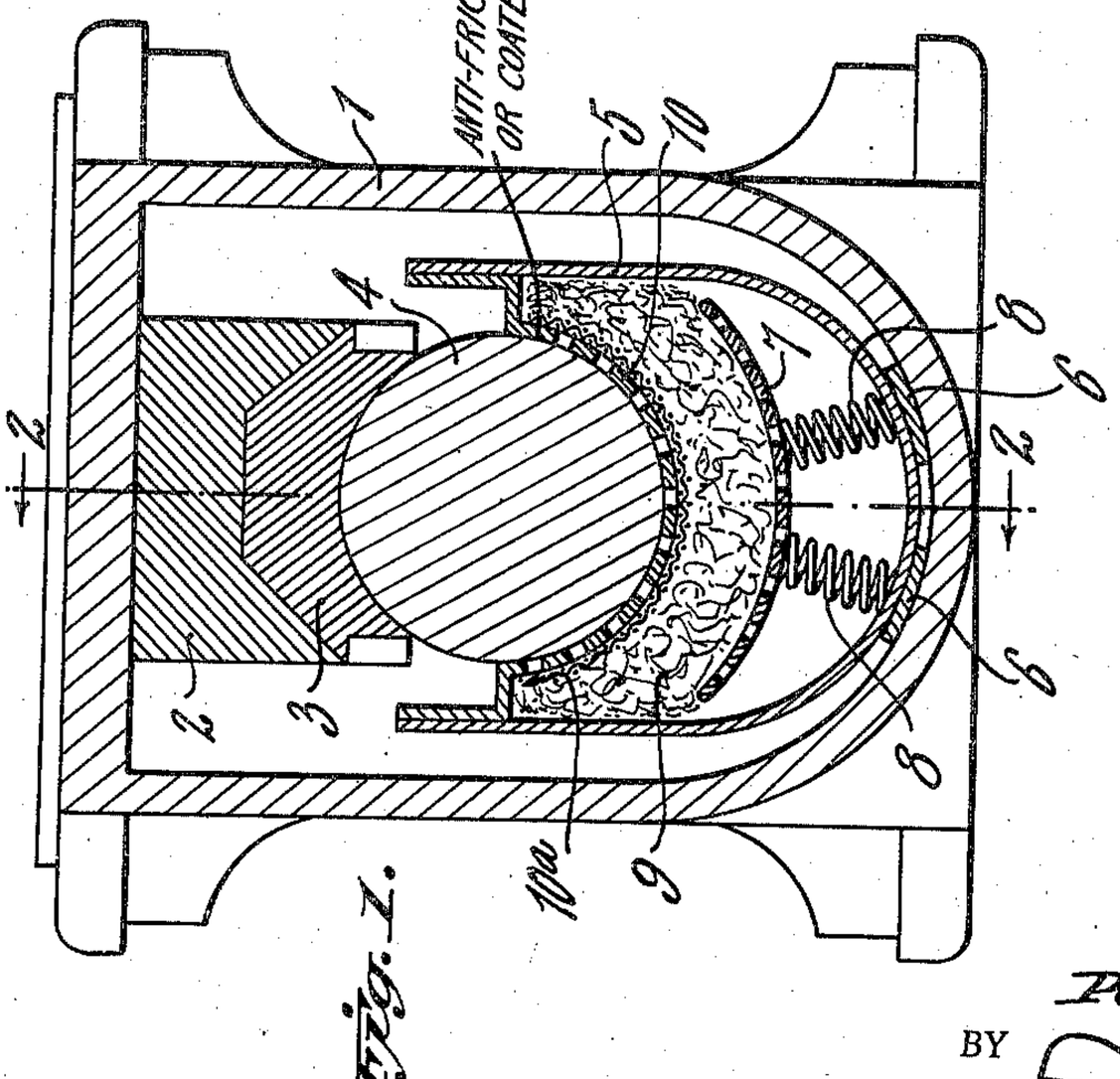

Fig. 1.

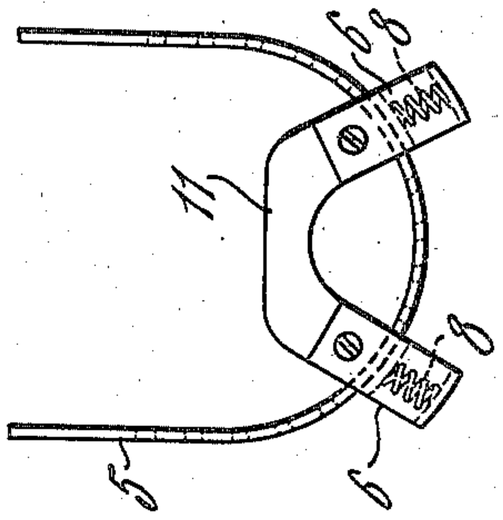

Fig. 3.

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LUBRICATING DEVICE

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Application February 3, 1937, Serial No. 123,772

3 Claims. (Cl. 308—88)

This invention relates to lubricating devices and more particularly to a lubricating device for the journal bearings of wheeled vehicles such as railway cars.

In the past the common practice has been to pack the journal boxes of railway cars with a mass of oily waste. The waste is stuffed into the box in sufficient quantity to contact the axle bearing surface over a considerable extent of its circumference. The rotation of the axle causes the waste to be picked up and lodged between the journal and the bearing, a condition known as "waste-grab." The contact surface of the waste becomes contaminated with grit and metal particles and the suspended oil will drain away from this surface when the car stands for a considerable period.

It is the principal object of this invention to provide a lubricating device which is more efficient in supplying oil to a journal bearing.

Another object of this invention is to provide a lubricating device in which the oil-carrying material will be maintained in proper position.

Still another object is to provide a lubricating device which is simple in design and economical in construction.

Other objects and advantages will in part be specifically stated and in part be obvious when the following specification is read in connection with the drawing, in which:

Fig. 1 is a transverse section of the device as applied to a railway car journal bearing, and Fig. 2 is a longitudinal section taken along line 2—2 of Fig. 1 with the bearing elements omitted for the sake of simplicity; Fig. 3 is an end view of a modified form of the invention; and Fig. 4 is an end view of a modified form of surface cover member.

Referring in more detail to Fig. 1, the numeral 1 indicates a railway car journal housing, having the bearing elements 2 and 3, and the axle 4. The lubricating device is preferably of sheet metal and made to conform in shape and dimensions to the bottom and sides of the standard car and tender journal boxes of the U. S. Master Car Builders Association. It consists of a frame 5, mounted on rails 6, and carrying a perforated compression plate 7 upon compression springs 8. A body of oil-soaked waste 9 which may be in the form of a muslin covered pad is forced against a perforated sheet metal surface cover 10, which is in contact with the axle surface to be lubricated. The surface cover 10 may be an anti-friction alloy or have an inner contact surface of any suitable anti-friction alloy such as lead antimony, tin base, or lead base babbit, and is so mounted as to be capable of a vertical motion under the relative movement of the axle 4 and the journal housing. Fig. 2 shows a longitudinal centre section of the device, and illustrates how the rails 6 are curved to provide a rear abutment and a handle on the outer ends. The handle 11 extends transversely, joining the forward ends of the rails 6, and may be integral therewith, or attached by any suitable means as bolts. A modification of the frame structure is illustrated in Fig. 3, which shows a perforated sheet metal frame 5 supported on the rails 6 by the compression springs 8. Another form of surface cover 10 is shown in Fig. 4, which comprises a metal reinforced fabric provided with eyelets which may have an anti-friction surface coating. The underside of both forms of the cover 10 may have an oil-pervious lining 10*a* of wire fabric or any suitable material, both to prevent bits of waste from being drawn into the bearing through the perforations therein and to prevent grit and metal particles from reaching the oily waste. The proportions of the respective parts of the lubricating device are exaggerated in thickness in order that a clear understanding of the nature of the device may be had.

During the running of the journal, a compression and expansion of the springs 8 is produced which results in a pumping action to promote the movement of oil to the inner surface of the surface cover 10. The tendency of the oil to settle in the lower portions of the device is thus overcome. In applying the lubricating device, the surface cover 10 with the lining 10*a* is placed in position against the under side of the car journal and temporarily held in place by a suitable means such as a clip or key. The frame and compression plate is inserted into the journal box and sufficient packing is introduced to hold the surface cover 10 in position. The clip or key is withdrawn and the packing is completed in accordance with the usual practice. If desired, an extra supply of oil-soaked packing may be carried in the space between the frame and journal box for emergency use.

It will be apparent that many changes and modifications may be made by anyone skilled in the art without departing from the spirit and scope of the invention as set forth in the following claims.

I claim:

1. In combination with an axle and a journal box therefor, a lubricating device comprising rails positioned on the bottom surface of said

box and having upturned inner ends for engagement with the back wall of said box, a transverse handle extending between the forward ends of said rails, a frame supported on said rails and extending upwardly beyond the horizontal diameter of said axle, a body of lubricant saturated material maintained under compression in said frame, a perforate cover member positioned on said material, a fabric lining secured to the underside of said cover member, a friction reducing metal positioned on the upper side of said cover member and in engagement with the axle bearing surface, and guide means on said cover member comprising outwardly and upwardly extending portions in engagement with the inner walls of said frame.

2. In combination with an axle and a journal box therefor, a lubricating device comprising rails positioned on the bottom surface of said box and having upturned inner ends for engagement with the back wall of said box, a frame supported on said rails and extending upwardly beyond the horizontal diameter of said axle, a body of lubricant saturated material maintained under compression in said frame, a perforate cover member positioned on said material, a fabric lining secured to the underside of said cover member, a friction reducing metal positioned on the upper side of said cover member and in engagement with the axle bearing surface, and guide means on said cover member comprising outwardly and upwardly extending portions in engagement with the inner walls of said frame.

3. In combination with an axle and a journal box therefor, a lubricating device comprising rails positioned on the bottom surface of said box and having upturned inner ends for engagement with the back wall of said box, a handle member secured to said rails, a frame supported on said rails and extending upwardly beyond the horizontal diameter of said axle, a body of lubricant saturated material maintained under compression in said frame, a perforate cover member positioned on said material, a fabric lining secured to the underside of said cover member, a friction reducing metal positioned on the upper side of said cover member and in engagement with the axle bearing surface, and guide means on said cover member comprising outwardly and upwardly extending portions in engagement with the inner walls of said frame.

PONTUS H. CONRADSON.