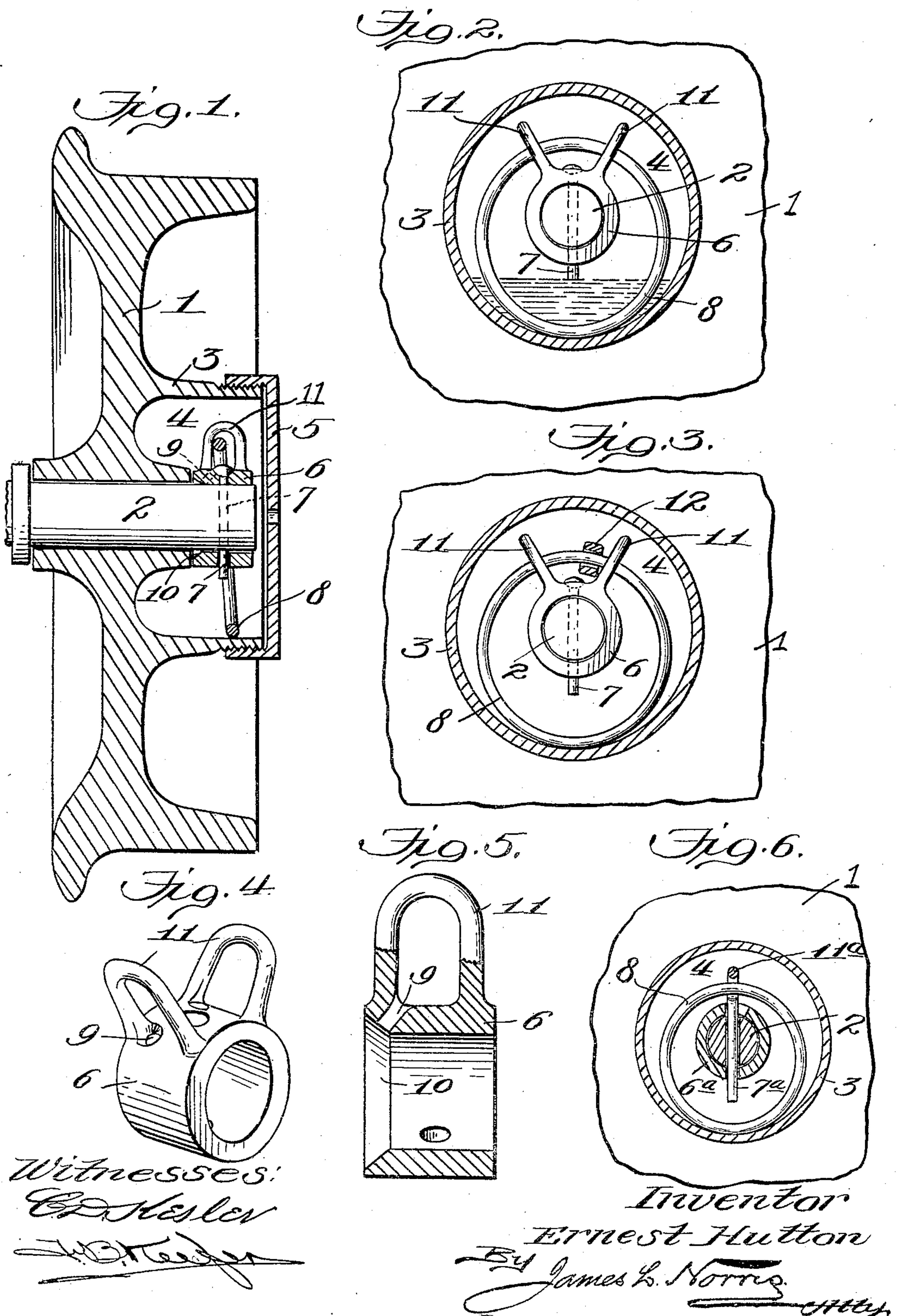


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LUBRICATING DEVICE.  
APPLICATION FILED FEB. 15, 1909.

948,224.

Patented Feb. 1, 1910.





# UNITED STATES PATENT OFFICE.

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## LUBRICATING DEVICE.

948,224.

Specification of Letters Patent.

Patented Feb. 1, 1910.

Application filed February 15, 1909. Serial No. 478,063.

*To all whom it may concern:*

Be it known that I, ERNEST HUTTON, a citizen of the United States, residing at Huttonsville, in the county of Randolph and State of West Virginia, have invented new and useful Improvements in Lubricating Devices, of which the following is a specification.

This invention relates to new and useful improvements in lubricating devices for car wheels, pulleys and similar rotatable bodies and more particularly to that type of construction in which an oil feeding element is arranged in the lubricant chamber of the wheel to supply lubricant to the journal continuously during the rotation of the wheel.

The present invention includes a loosely assembled ring which seeks the outer circumference of the oil chamber at which place the greatest quantity of oil collects and the novelty of the improvement resides in combining with the ring a means for stripping the oil or lubricant therefrom and for causing the flow of such oil to the journal to be lubricated.

The ultimate purpose of the arrangement is to provide a lubricating device which shall be certain and efficient in operation at all speeds, of marked simplicity in its structural details and inexpensive to manufacture.

In order that the invention may be more readily understood, I have shown in the accompanying drawings a preferred and a modified embodiment thereof, either of which may be advantageously employed. The present disclosure is to be regarded, however, merely as illustrating by way of example advantageous structures in which the inventive idea is carried out and it is to be understood that the practical application of the invention is not limited to the two forms herein shown.

In the following description I have set forth at length the details of construction of the devices shown in the drawings and in the claims appended at the end of such description I have set forth wherein I regard my invention as new and useful over the prior art.

In the said drawings: Figure 1 is a central vertical section illustrating a car wheel provided with a lubricating device constructed in accordance with the present invention. Fig. 2 is a sectional view taken through the lubricant chamber and illustrating the lubricating device in end elevation. Fig. 3 is a

similar view illustrating a slightly modified embodiment of lubricating device. Fig. 4 is a detail perspective view of a retaining collar included in the embodiment shown in Figs. 1, 2 and 3. Fig. 5 is an enlarged longitudinal sectional view of said collar, and Fig. 6 is a sectional view similar to Figs. 2 and 3 and illustrating a further modified embodiment of the invention.

Similar characters of reference refer to corresponding parts throughout the several views.

The car wheel shown at 1 is rotatable upon a journal, as 2, and is formed with a laterally projecting annular flange, as 3, which surrounds the hub and defines therewith a lubricant chamber, as 4. The flange 3 is threaded to receive a cap, as 5, which forms a closure for the oil chamber and by means of which access may be had to the lubricating device, when necessary, without dismantling the wheel or any of the parts of the journal. The journal 2 projects some distance beyond the hub of the wheel 1 and is provided with a collar, as 6, which is held stationary with the journal by a transverse pin, as 7, passing through openings in the collar 6 and in the journal. An oil feed ring, as 8, assembled in any suitable or known manner loosely surrounds the collar 6 and the latter is preferably constructed to serve as an oiling device and is accordingly provided between its circumferential faces with an inclined feed duct, as 9. The collar 6 preferably has its end face, adjacent the hub of the wheel, flared, as at 10, and the duct 9 extends into the flared face 10, as shown more particularly in Fig. 5. This arrangement allows of the device feeding the necessary quantity of oil to the journal under all conditions of speed.

As has been stated the primary feature of novelty resides in the provision of means for stripping the oil from the feed ring 8 and such means preferably comprises divergent loops, as 11, which project radially from the upper side of the collar 6 and through which the feed ring 8 passes. The divergent relation of these loops assists in transferring the oil from the ring 8 to the duct 9.

In the arrangement shown in Fig. 3 the ring 8 is provided between the loops 11 with a freely movable collar 12 sufficiently large to be restrained by said loops and which assists the latter in stripping oil from the ring.

In the arrangement shown in Fig. 6, the



collar, as 6<sup>a</sup>, is without loops. The pin 7<sup>a</sup> which secures the collar upon the journal is, however, formed at its upper end with a loop as 11<sup>a</sup>, through which the feed ring 8 passes, the loop 11<sup>a</sup> in this embodiment corresponding to the loops 11 above described.

The loops 11 or 11<sup>a</sup>, as the case may be, aside from their primary function of stripping oil from the rings 8, serve also to hold said ring in proper relation to the feed duct. One objection to the loose ring type of feed devices ordinarily employed is that the "wabbling" of the wheel moves the upper side of the ring away from the part which receives the oil and the lubrication is consequently neither uniform nor efficient.

When the wheel is rotating the oil will be thrown by centrifugal force toward the flange 3 and the ring 8 will rest by gravity upon said flange and in the lower part of the chamber 4 where the greatest amount of lubricant gathers. The ring 8 continuously collects a portion of the oil, such oil as is caught by the ring being stripped by the loops 11 or 11<sup>a</sup>, as the case may be, and by the collar 12 when the latter is used. The oil thus stripped passes through the duct 9 to the journal and should the amount fed by the ring be greater than the amount which is used, the surplus is thrown back into the chamber by centrifugal force to be subsequently used again. In this manner the full benefit of the lubricant is obtained.

Having fully described my invention, I claim:

1. The combination with a wheel and its journal constituting relatively rotatable parts, the former having an oil chamber, of a stationary collar in the oil chamber and provided with a feed duct to transfer oil to the relatively rotatable parts, a feed ring loosely surrounding the collar and means for stripping collected oil from the feed ring and for causing the oil thus stripped to flow upon the collar.

2. The combination with a wheel and its journal constituting relatively rotatable

parts, the former having an oil chamber, of a stationary collar in the oil chamber arranged to transfer oil to the relatively rotatable parts, a feed ring loosely surrounding the collar, and means for stripping collected oil from the feed ring and for causing the oil thus stripped to flow upon the collar.

3. The combination with a journal and a wheel having an oil chamber, the journal having a projecting portion in said chamber, of a stationary collar surrounding said projecting portion, a stationary loop associated with said collar and a feed ring passed loosely through said loop.

4. The combination with a journal and a wheel having an oil chamber, the journal having a projecting portion in the oil chamber, of a stationary collar surrounding the projecting portion and provided with a flared end face adjacent the hub of the wheel and with an oil duct communicating with said end face, a stationary loop associated with said collar adjacent said oil duct and a loose feed ring passed through said loop.

5. The combination with a journal and a wheel having an oil chamber, the journal having a projecting portion in the oil chamber, of a stationary collar surrounding the projecting portion and provided with two divergent radially extending loops and a loose feed ring passing through said loops.

6. The combination with a journal and a wheel having an oil chamber, the journal having a projecting portion in the oil chamber, of a stationary collar provided with two divergent radially extending loops, a loose feed ring passing through the loops and a loose collar on the feed ring and between the loops.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ERNEST HUTTON.

Witnesses:

S. W. STANARD,  
P. B. BLOOMFIELD.