

(No Model.)

G. W. PERO.
AXLE LUBRICATOR.

No. 520,450.

Patented May 29, 1894.

Fig. 1.

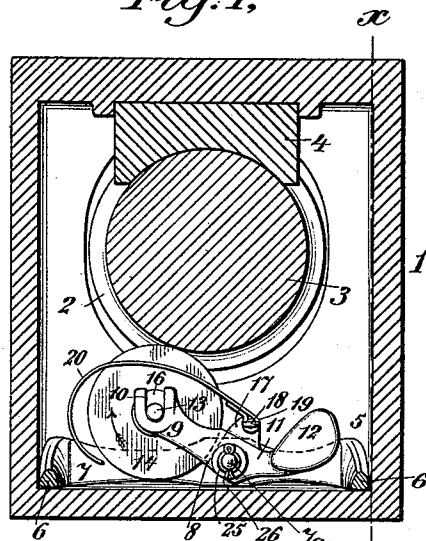


Fig. 2.

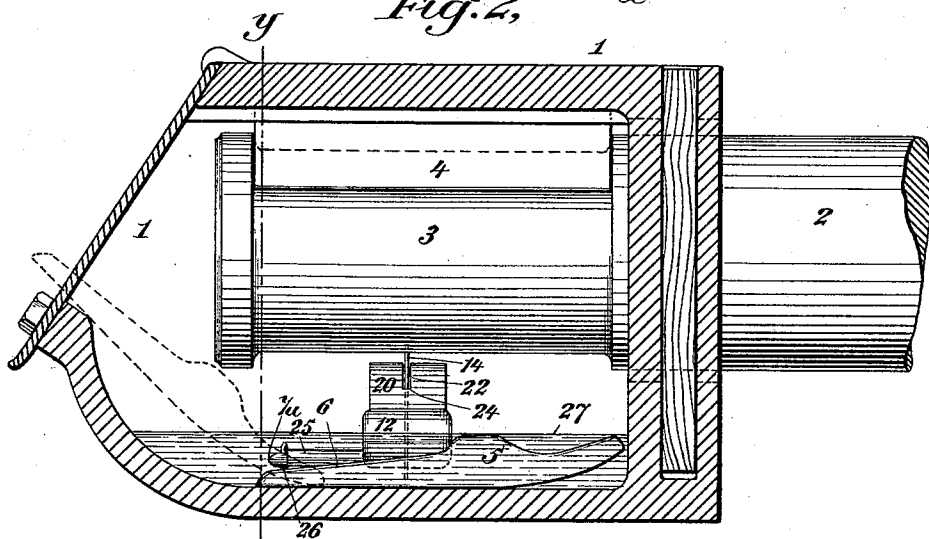
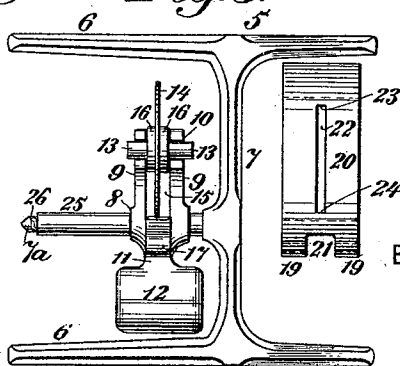


Fig. 3.



WITNESSES:

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GEORGE W. PERO, OF WEST NEW BRIGHTON, ASSIGNOR OF ONE-HALF TO
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AXLE-LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 520,450, dated May 29, 1894.

Application filed November 29, 1893. Serial No. 492,363. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. PERO, a citizen of the United States, and a resident of West New Brighton, in the county of Richmond and State of New York, have invented certain new and useful Improvements in Axle-Lubricators, of which the following is a specification.

My invention has for its main object to provide means for economically and effectively lubricating the journals of car axles, and to this end consists first in combining with an oiling disk a self-adjusting scraper or wiper to prevent an undue or excessive supply of lubricating material to the journal; and secondly, in certain details of construction and combinations of devices, all of which will be hereinafter more fully described and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a vertical sectional view taken at the line *y, y* of Fig. 2. Fig. 2 is a vertical sectional view taken at the line *x, x* of Fig. 1; and Fig. 3 is a plan view of the lubricating means removed from the axle box and of the scraper or wiper detached.

In the several views the same parts will be found designated by the same numerals of reference.

1 designates the car axle journal box of about the usual construction; 2 a part of the car axle, and 3 the axle journal arranged to rotate in said axle box, which, as customary, is provided on its upper side with a brass or bearing 4, for the journal.

At the bottom of the box beneath the journal, I place my novel means for lubricating the latter, and I shall now more fully describe the details of the same.

5 designates as an entirety, a support, which is composed of two end-bars 6, 6, and a transverse connecting bar 7, all preferably cast in one piece. The inner ends of the bars 6 are preferably curved upwardly, as shown, to enable the ready insertion of the support within the box.

Extending outwardly from the cross bar and parallel with the side bars 6, is an elongated pivot-pin 7^a, upon which is mounted a lever or frame 8, comprising two parallel upwardly-extending arms 9, 9, having each a

vertical slot or fork 10, and an arm 11 bearing at its outer end an upwardly-extending weight 12. The arms 9, 9 are arranged on one side of the pivot hole, and the arm 11 is arranged on the other side thereof. The slots or forks 10 receive journals or studs 13 projecting from opposite sides of a sheet-metal disk or thin wheel 14, which revolves in the space 15 between the arms 9, and which may be provided with washers 16 between said arms.

On the upper side of the lever-frame 8 is a projection 17, which is perforated parallel with the disk journals to receive a hinge-pin 18, that passes through eyes 19 formed at one end of a scraper or wiper 20, which is bifurcated at 21 to straddle the projection 17 and enable its perforation and the eyes 19 to be brought into alignment for the passage there-through of the hinge-pin 18. The scraper or wiper is preferably made of sheet-metal and provided with a slot 22, through which the uppermost portion of the disk projects and which enables the scraper or wiper to rest or bear upon the periphery of the disk, at the ends 23 and 24 of the slot. The scraper or wiper is made comparatively wide preferably, and from the end 23 of the slot is curved downwardly to terminate near the bottom of the disk.

The pivot pin 7^a is elongated or extended forward a considerable distance to enable the disk-carrying frame to be conveniently mounted and removed, when the support 6 is in position in the axle-box. The disk-carrying frame being located or arranged back near to the cross-bar 7, it would be quite inconvenient to place it in position while the support is in the axle-box if the pivot pin were made short or only long enough to hold said frame. After the lever-frame has been put upon the pivot pin a sleeve 25 may be slipped upon the latter to hold the frame in place, and said sleeve may be kept in position by a cotter pin 26 passing through a hole at or near the outer end of the pivot pin.

At Figs. 1 and 2 the contrivance is shown in a working position and condition. At the bottom of the axle-box is shown at 27 a lubricating material, preferably oil, but of course it will be understood that this material may

be contained in a cup or other vessel placed within the axle-box.

In operation, the disk, running in contact with the axle journal, is rotated thereby and running through the lubricating material carries up the same and supplies it to the journal. The action of the disk is such as to carry up to the journal a quantity of oil largely in excess of what is needed, but this action is overcome or cured by reason of the presence of the device 20, which operates to effectually regulate the supply of oil to the journal, the ends 23 and 24 of the slot (in contact with which the periphery of the disk runs) serving to scrape or wipe from the periphery of the disk any excess of oil and to cause the same to fall back to the reservoir; and the body of the scraper or wiper serving at the same time as a hood or deflector to intercept and return any oil which may splash or be thrown off from the disk by centrifugal force. When the disk turns in the direction of the arrow at Fig. 1, the end 23 of the slot serves as the wiper or scraper, and when the disk rotates in the opposite direction the end 24 of the slot serves as the wiper or scraper. The device 20 is so pivoted as that by gravity the ends of the slot rest always on the periphery of the disk.

If it should be desired at any time to remove the disk, on account of wear or for any other reason, and substitute another disk therefor, this may be speedily accomplished by throwing back the device 20, lifting the old disk from its bearings, dropping the new one into place, and then returning the scraper to its working position.

It will be observed that the weight 12 tends to automatically keep the disk always in contact with the axle journal and hence to keep the latter supplied with oil after the brasses 4 become worn, as well as at the start, when they are new. In other words, the disk is so mounted as to automatically adjust itself to the journal not only when it may become worn, but also when the brasses or journal bearings may become worn. This capacity of the disk to always keep in contact with the journal, and the provision of means for preventing an excessive supply of oil to the journal constitute the main features of my invention. It will of course be understood that in consequence of the constant contact of the disk with the journal, the latter will be always supplied with oil, as long as the periphery of the disk passes therethrough; and it will also be understood that by reason of the presence of the regulator 20, only the needed quantity of oil is supplied to the journal, thus not merely greatly economizing in oil but also enabling the journal to run a much greater length of time than would be possible if some means were not provided for controlling the tendency or action of the disk to carry or feed an excessive quantity of the lubricant to the journal.

The scraper, wiper or regulator may of course be differently constructed and arranged without departing from the spirit of this part of my invention. In addition to the functions already referred to, this device also serves the useful office of preventing dust, dirt, or grit, being carried up to the journal by the disk.

Various changes in detail construction and arrangement, as for example the substitution of a spring for the weight, may be made without departing from the gist of my several improvements.

The contrivance may be used elsewhere than in car-axle boxes.

What I claim as new, and desire to secure by Letters Patent, is—

1. In an axle lubricator, the combination of a journal, a pivotally-mounted frame weighted on one side of its pivot and carrying on the opposite side an oiling disk, and a self-adjusting scraper or wiper for removing surplus oil from said disk.

2. In an axle lubricator, the combination of a journal, a pivotally-mounted frame weighted on one side of its pivot and carrying an oiling disk on the other side thereof, and a scraper or wiper for said disk hinged to or upon said frame and adapted to maintain always its proper relative position to said disk when wear occurs, as well as when the disk is moved bodily in any direction.

3. In an axle lubricator, the combination of a journal, an oiling disk, and a hinged scraper or wiper provided with a slot through which the upper portion of the disk protrudes and upon the periphery of which disk the ends of the slot always bear.

4. In an axle lubricator, the combination of a journal, an oiling disk carried by a pivotally-mounted frame, and a scraper or wiper hinged to said frame and provided with a slot for the passage therethrough of the upper portion of said disk, the said scraper or wiper being adapted by gravity to bear on the periphery of said disk at the ends of its slot.

5. In an axle lubricator, the combination of a journal, an oiling disk arranged to contact with said journal, and also to run through the lubricant employed, and a scraper or wiper hinged and slotted so as to always bear on the periphery of said disk at both sides of the center thereof, whereby the surplus oil may be removed from the disk whatever may be its direction of rotation.

6. In an axle lubricator, the combination of a journal, a support having an elongated pivot pin, a lever or frame mounted thereon and carrying a weight and an oiling disk, and a hinged and slotted scraper or wiper.

7. In an axle lubricator, the combination of a journal, an oiling disk, and a hinged and slotted scraper or wiper provided with an integral hood or deflector.

8. In a lubricating contrivance adapted for

insertion in a car axle box, the combination
of a suitable support, a pivoted and weighted
lever or frame, a sheet-metal oiling disk, and
a hinged and slotted scraper or wiper bear-
5 ing at all times at two points of the periphery
of said disk and on opposite sides of the cen-
ter thereof.

Signed at New York city, in the county of
New York and State of New York, this 4th day
of November, A. D. 1893.

GEORGE W. PERO.

Witnesses:

CORNELIUS P. McLAUGHLIN,
JACOB FELBEL.