No. 871,549. PATENTED NOV. 19, 1907.

M. W. WILLSON.

AUTOMATIC CAR WHEEL FLANGE GREASER.

APPLICATION FILED JAN. 7, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

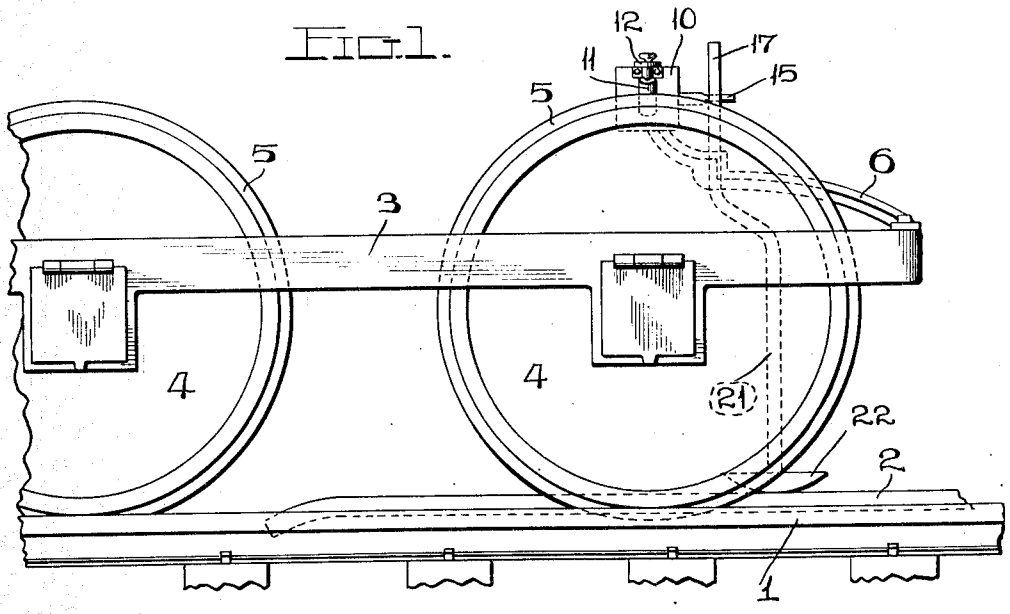


Fig. 2.

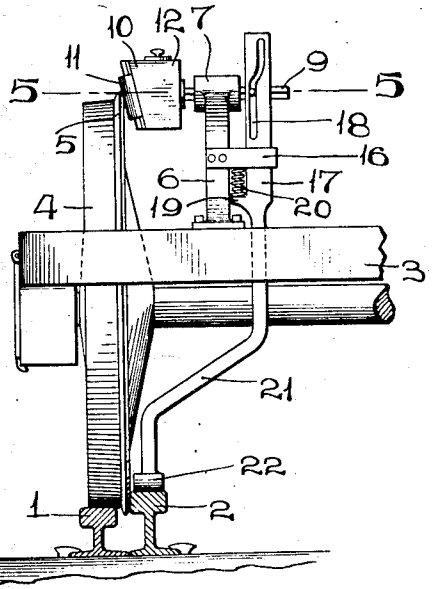
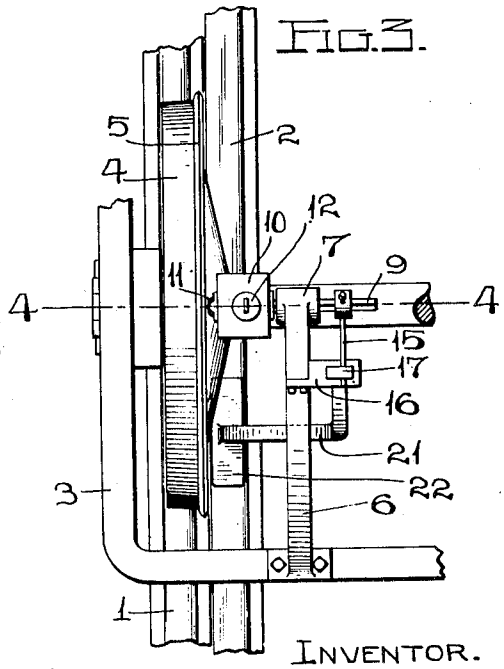


Fig. 3.



ATTEST.

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ATTY'S.

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2 SHEETS—SHEET 2.

FIG. 4.

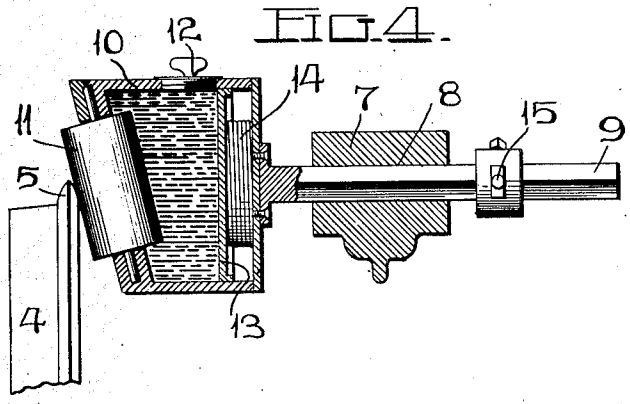


FIG. 5.

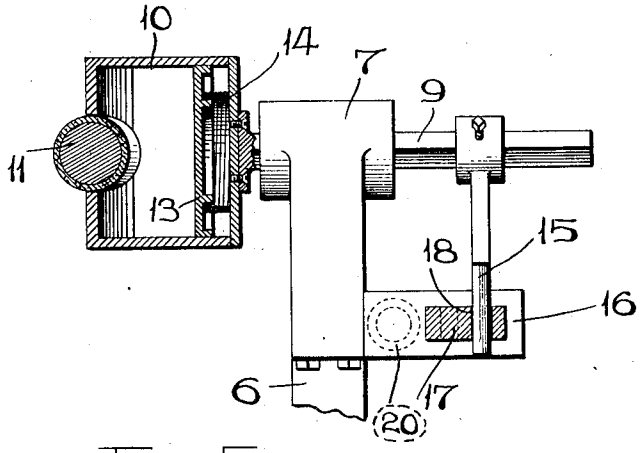
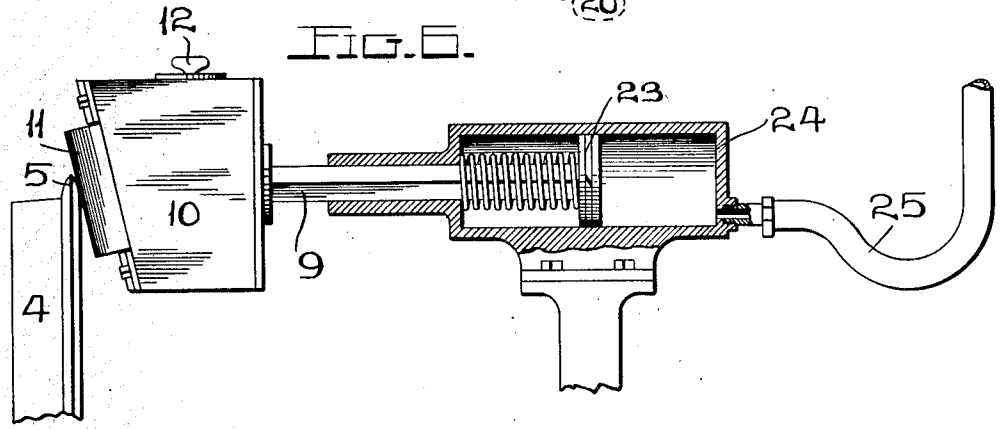


FIG. 6.



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UNITED STATES PATENT OFFICE.

MENDAL W. WILLSON, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-THIRD TO JAMES R. WALKER AND ONE-THIRD TO LEWIS P. LEATHERS, OF ST. LOUIS, MISSOURI.

AUTOMATIC CAR-WHEEL-FLANGE GREASER.

No. 871,549. Specification of Letters Patent. Patented Nov. 19, 1907.

Application filed January 7, 1907. Serial No. 351,146.

To all whom it may concern:

Be it known that I, MENDAL W. WILLSON, a citizen of the United States, and resident of St. Louis, Missouri, have invented certain new and useful Improvements in Automatic Car-Wheel-Flange Greasers, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to an automatic car wheel flange greaser, and the object of my invention is to provide a simple attachment particularly adapted for street cars which will automatically deliver grease, or a similar lubricant to the flanges of the car wheels during the time said car wheels are traveling around a curve of the railway track, which lubricant is greatly beneficial, as it reduces the friction between the car wheels and the track and guard rails.

To the above purposes, my invention consists in certain novel features of construction and arrangement of parts, which will be hereinafter more fully set forth, pointed out in the claims, and illustrated in the accompanying drawings, in which:—

Figure 1 is a side elevation of a portion of a truck, and showing one of my improved attachments carried thereby for delivering grease to the car wheel flange; Fig. 2 is an elevation of my improved attachment, and showing the grease delivering roller in contact with the flange of the car wheel; Fig. 3 is a plan view of the parts seen in Fig. 2; Fig. 4 is an enlarged section taken on the line 4—4 of Fig. 3; Fig. 5 is an enlarged horizontal section taken on the line 5—5 of Fig. 2; Fig. 6 is a modified form of the apparatus which is to be thrown into operation by means of a fluid pressure cylinder actuated either automatically or by hand.

Referring by numerals to the accompanying drawings:—1 designates the track rail, 2 the guard rail, which is positioned in the usual manner adjacent the track rail, and which guard rail is slightly higher than the top of said track rail.

3 designates the car truck, 4 the car wheels, and 5 the flanges thereof.

6 designates a bracket which is rigidly fixed in any suitable manner to the truck 3, and which extends to a point just inside the car wheel, and at a point directly opposite the top thereof; and formed at the upper end of said bracket is a bearing 7, through which is formed a horizontally disposed non-circular aperture 8, in which is arranged to slide a bar 9.

10 designates a grease container, in the form of a hollow receptacle, which is fixed in any suitable manner to the outer end of the bar 9, and journaled for rotation in the outer wall of said container is a vertically disposed roller 11, which is adapted to frictionally engage with the flange of the wheel when the container is moved outwardly, and thus deliver grease to said flange.

An opening in the top of the container 10 is normally closed by a screw plug 12, through which opening the grease is delivered to the container, and operating within the container is a vertically disposed follower plate 13, which is moved toward the roller 11 by an expansive coil spring 14, and which is for the purpose of forcing the grease onto the periphery of said roller 11.

Fixed on the inner end of the rod 9 is a laterally projecting finger 15, and arranged for vertical movement through an arm 16 is a plate 17, in which is formed a vertically disposed slot 18, the ends of which are offset, or out of vertical alinement with one another, and through which the end of the finger 15 passes. This slot is so formed as that when the plate 17 is at its lowermost position, the finger 15 occupies the upper end of the slot 18, and the rod 9 and grease container 10 are drawn away from the flange of the car wheel; and when said plate 17 is elevated, the rod 9 and container 10 are moved outwardly so that the roller 11 frictionally engages with the car wheel flange.

Extending laterally from the plate 17, immediately beneath the arm 16, is a lug 19, and interposed between said lug and arm 16 is an expansive coil spring 20, which normally forces the plate 17 downwardly. Formed integral with the lower end of the plate 17 is a depending rod 21, the lower end of which is provided with a shoe 22, so positioned as that it will ride on top of the guard rail 2.

The operation of my improved greasing attachment is as follows: On approaching a curve, the shoe 22 strikes and rides upon the guard rail 2, and in so doing is elevated a short distance, which movement elevates

the plate 17, and the finger 15 traveling through the slot 18 is shifted laterally, which action necessarily causes the rod 9 and container 10 to move outwardly, and thus the roller 10 is brought into frictional engagement with the car wheel flange; and as said roller is rotated, the grease on the interior of the container, which is forced against the roller by the plate 13, is delivered onto the car wheel flange. As soon as the trucks pass off from the curve and away from the guard rail on said curve, the weight of the arm 21, together with the expansive action of the coil spring 20, moves the plate 17 downwardly, and this action draws the container and roller carried thereby away from the flange.

In the modified form of the apparatus shown in Fig. 6, the rod 9 is provided on its inner end with a piston 23, which operates in a fixed cylinder 24, into which cylinder fluid pressure is conveyed through a tubular connection 25, and by means of a valve, (not shown,) which is operated either by a person mounted on the car, or by the lateral swing of the trucks when they enter a curve, said fluid pressure is delivered to the cylinder to move the rod 9 and container 10 outwardly.

Thus, my improved greasing attachment is entirely automatic in its operation, and the roller which applies the grease to the car wheel flange is only moved into frictional engagement with said flange at the time the trucks enter and pass around a curve.

My improved apparatus is simple in operation, easily installed for use, and can be employed on all forms of trucks.

I claim:—

1. In a car wheel flange greaser, a grease container mounted to move to and from the flange of a car wheel, there being an opening in the front wall of said container, a vertically disposed roller journaled for rotation in said opening, and a spring actuated follower plate arranged within the container for moving the grease therein toward the roller.

2. In a car wheel flange greaser, a grease container mounted to move to and from the flange of a car wheel, there being an opening in the front wall of said container, a vertically disposed roller journaled for rotation in said opening, a spring actuated follower plate arranged within the container for moving the grease therein toward the roller, and means actuated by contact with a guard rail adjacent the track rail for shifting the container laterally.

3. In a car wheel flange greaser, a grease container mounted to move to and from the flange of a car wheel, there being an opening in the front wall of said container, a vertically disposed roller journaled for rotation in said opening, a spring actuated follower plate arranged within the container for moving the grease therein toward the roller, and means whereby said container is shifted laterally to cause the roller to contact with the inside of the car wheel flange.

4. In a device of the class described, a horizontally disposed bearing, and a bar arranged for operation therethrough, means actuated by contact with a guard rail adjacent the track rail for shifting the bar laterally through the bearing, a grease container fixed on the outer end of the bar, a vertically disposed contact roller journaled in the outer wall of the container, a follower plate arranged within the container, and an expansive coil spring positioned behind the follower plate for normally forcing the same toward the roller.

In testimony whereof, I have signed my name to this specification, in presence of two subscribing witnesses.

MENDAL W. WILLSON.

Witnesses:
M. P. Smith,
Edward E. Longan.