Aug. 11, 1953 D. A. KELLY 2,648,399

LUBRICATOR APPLICATOR FOR CAR WHEELS

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Fig. 1.

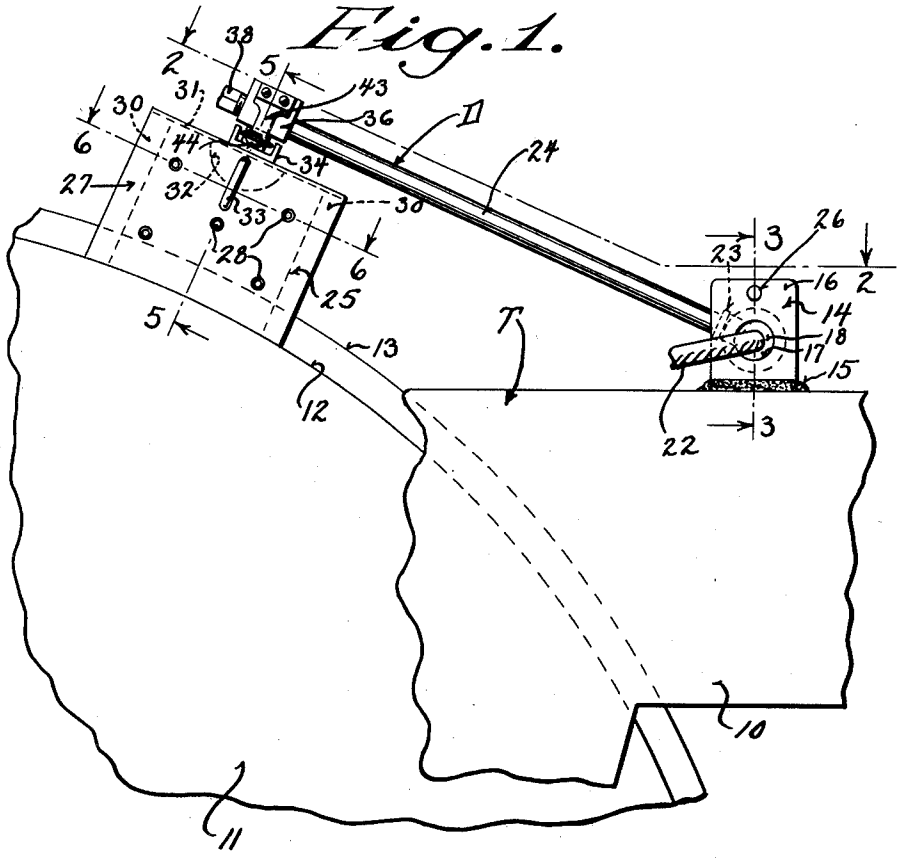
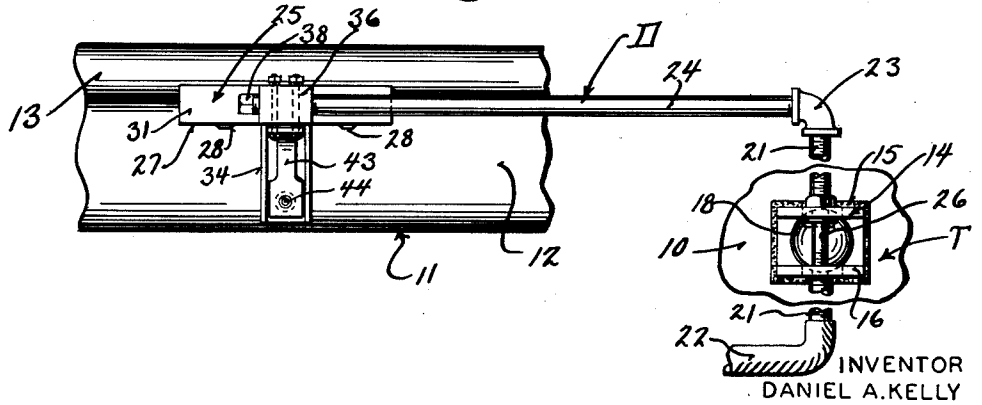


Fig. 2.



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Fig. 3.

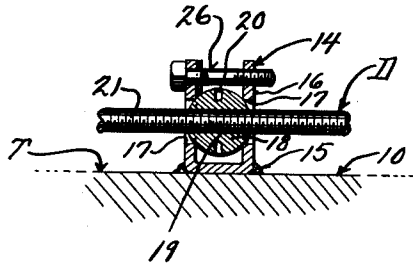


Fig. 4.

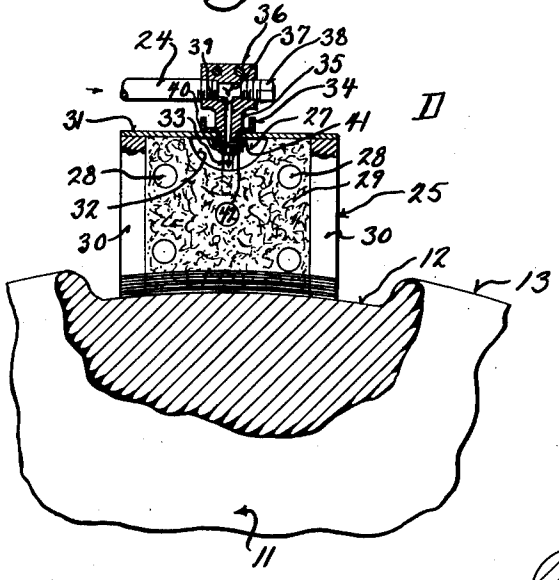


Fig. 5.

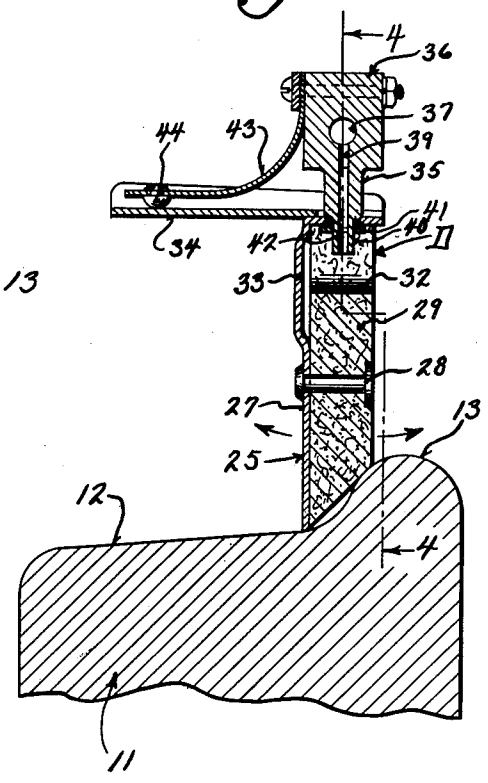
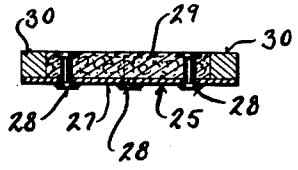


Fig. 6.



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LUBRICATOR APPLICATOR FOR CAR WHEELS

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Application April 5, 1951, Serial No. 219,370

8 Claims. (Cl. 184—3)

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This invention appertains to the oiling or lubricating of the flanges of wheels for locomotives, and other railroad rolling stock.

One of the primary objects of the present invention is to provide a novel pad or brush assembly for wiping contact with the flange of a car wheel for effectively supplying a thin film of oil thereto, which will have long life and thus eliminate the necessity of frequent replacements.

Another salient object of the invention is to provide means for pressure sealing the novel pad or brush against the flange of the car wheel, so as to prevent dripping of oil on the tread of the wheel, but at the same time permit the wiping of the desired film of oil on the flange as long as the locomotive or car is in motion.

A further important object of the invention is to provide a novel mounting for the brush or pad, so that the brush or pad is free to move up and down and laterally with the wheel and at the same time remain sealed in wiping contact with the wheel flange.

A still further object of the invention is to provide a novel mounting for the wiping brush or pad which will permit the initial adjustment of the pad relative to the wheel according to different truck frame characteristics and thereafter permit the desired movement of the brush or pad with the up and down, and lateral motion of the wheel.

With these and other objects in view, the invention consists in the novel construction, arrangement and formation of parts, as will be hereinafter more specifically described and claimed, and illustrated in the accompanying drawings, in which drawings,

Figure 1 is a fragmentary side elevational view showing the novel applicator in operative position relative to a car wheel.

Figure 2 is a top plan view looking down on the applicator and showing the same in position relative to a car wheel.

Figure 3 is a detail vertical sectional view taken on the line 3—3 of Figure 1, looking in the direction of the arrows, illustrating the novel bracket mounting for the applicator brush or pad.

Figure 4 is a vertical sectional view, taken on the line 4—4 of Figure 5, looking in the direction of the arrows, showing the mounting of the pad or brush on its supporting swivel.

Figure 5 is a transverse sectional view taken on the line 5—5 of Figure 1, looking in the direction of the arrows, the view being on a greater scale than Figures 1 to 4, and illustrating the novel support for the pad or brush.

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Figure 6 is a substantially horizontal sectional view, through the pad or brush, taken on the line 6—6 of Figure 1, looking in the direction of the arrows, the figure being on the same scale as Figure 1.

Referring to the drawings in detail, wherein similar reference characters designate corresponding parts throughout the several views, the letter T generally indicates a fragment of a car or locomotive truck, and the same includes a frame 10, and a wheel 11. The wheel 11, is of the type now commonly used in railroading and embodies the tread 12 and the flange 13. Associated with the truck T is the novel device D for applying thin films of oil continuously to the flange 13 of the car wheel, as long as the car or locomotive is in motion. The novel device includes a supporting bracket 14 of a substantially U-shape and this bracket is welded as at 15, to the truck frame 10, adjacent to a wheel 11, which is to be lubricated. The U-shaped bracket includes spaced, parallel side plates 16 having transversely aligned bearing openings 17 therein for the reception of a supporting and adjusting ball 18. This ball 18 is provided with an internally threaded diametrically extending bore 19 and at spaced points with socket openings 20 for the reception of a tool, to facilitate the turning of the ball, for a purpose which will be later brought out. The ball is threaded on a hollow shaft 21 and by turning the ball 18, the hollow shaft 21 can be moved back and forth, for a purpose, which will later appear. The connection of the ball and bracket forms in effect a universal joint. One end of the hollow shaft has connected therewith a feed hose 22, which supplies lubricant under pressure to the hollow shaft 21. The means for feeding the lubricant to the hollow shaft forms a separate invention, and is the subject matter of my copending application for patent, Serial No. 219,369, filed April 5, 1951. The end of the shaft 21 from the feed hose 22 has connected therewith an elbow fitting 23, and this fitting in turn carries a pipe or tube 24, for delivering oil to a swivel brush head or applicator 25. Above the ball 18, the side plates 16 of the U-shaped bracket 14 are connected by a cross bolt 26, and by adjusting this bolt, the side plates 16 can be drawn into gripping contact with the ball, for a purpose, which will also later appear. It is to be noted that the openings 17 are of a larger diameter than the diameter of the hollow shaft 21.

Now referring to the swivel brush head 25, it is to be noted that the same includes a frame plate or holder 27, to which is secured by rivets

28, the oil applying pad 29, which is formed from absorbent material, namely, felt or some similar material. The frame plate 27 also has rigidly secured thereto end steel frame bars 30, which engage the opposite edges of the felt pad 29 to confine the pad in place. The frame plate 27 also includes an upper wall 31, which extends over the top edge of the pad and the upper ends of the frame bars 30. The upper edge of the pad at its central portion is cut away as at 32, and the frame plate 27 has struck out therefrom an oil delivery channel 33. Rigidly secured to the top wall 31 and projecting laterally therefrom is a channel shaped arm 34. The wall 31, directly above the cut out portion 32 of the pad 29, has an opening therein in which is loosely fitted the rounded lower terminal of a feed neck 35 formed on a supporting block 36. This block 36 is provided with a horizontal way 37, one end of which is closed by a plug 38, and the other end of which receives the oil delivery pipe or tube 24. Also communicating with the way 37 is a substantially vertically extending passageway 39, and communicating with this passageway 39 is a reduced feed nipple 40 carried by the neck 35. This feed nipple 40 extends loosely through the top wall 31 of the frame plate 27, and into the cut away portion 32 of the pad 29. A washer 41 is placed on the nipple 40 against the inner surface of the top wall 31 and is retained in place by a cross pin 42. By this construction, the frame plate 27 and the pad 29 are mounted on the nipple 40 and the neck 35 for rocking movement. The block 36, has secured thereto a leaf spring 43 and the outer end of the spring carries a bearing button 44, which engages against the laterally extending arm 34.

In use of the applicator, the bracket 14 is located on the frame 10 at the desired point relative to the car wheel 11, and is welded in place, as stated, and the various parts are assembled, as just described. It is not necessary to accurately locate the bracket 14 during welding, as the assembly can be adjusted on the bracket to properly position the applicator 25 relative to the flange of the car wheel. The brush head or applicator 25 can be moved laterally back and forth by turning the ball 18, which will adjust the threaded shaft 21 in the bracket. It is essential, that the feed tube and the entire assembly be at right angles to the flange of the car wheel and the ball 18 is turned in the bracket until this is brought about. After the brush or applicator head 25 is correctly positioned, then the bolt 26 is adjusted for clamping the ball in place. The shaft 21 is still free to rock in the ball 18, and consequently, the applicator or brush head 25 and its feed pipe or tube 24 can swing up and down on the bracket 14, so that the brush head or applicator can follow the up and down movement of the car wheel. The adjustment of the device is such, that the pad 29 will bear against the inner face of the car wheel flange 13, and the spring 43, bearing against the arm 34 will normally urge the pad into intimate contact with the flange, as shown in Figure 5. Any lateral motion of the car wheel will not disturb the pad, in that the pad can rock back and forth to a limited extent on the neck 35 and the nipple 40. In Figure 5, the pad and its frame plate is shown, as just applied to the wheel, and after the pad is in use the same will wear down and conform to the curvature of the flange of the wheel and snugly engage the throat thereof, and will retain the oil close to the

flange and prevent dripping of the oil on the tread of the wheel. The pad engages the flange in such a manner that a thin film of oil is wiped on the flange during rotation of the wheel. As the pad and its frame plate wear, the feed pipe 24 will merely lower to compensate for this wear and the pad will still be held in intimate contact with the wheel.

Great stress is laid on the fact that the pad 29 is formed from felt or similar absorbent material, in that the pad will give off only the amount of oil that is fed into it above its absorbent capacity, and there will be no free oil in transit over the surface of the applicator when the feed oil has been shut off. If the pad 29 was made completely of steel or some other hard surface, the oil would be dropped onto it from the feed pipe at the top and would run down to the flange of the wheel. Hence, it is probable that upon the shutting off of the delivery of oil, the oil in transit in the feed pipe would flow over the surface of the applicator and then by gravity to the flange. With the pad formed from absorbent material, when the locomotive stops the oil delivery to the applicator the free oil is held within the absorbent material.

Changes in details may be made without departing from the spirit or the scope of this invention, but what is claimed as new is:

1. In a flange oiler for car wheels, an oil applicator for wiping engagement with the wearing face of the flange of a car wheel including a pad, a bracket adapted to be secured to the frame of a car truck adjacent to the wheel to be oiled, a shaft rockably mounted in the bracket transversely of the car wheel to be lubricated, an oil conducting tube carried by the shaft for movement therewith extending toward and over a car wheel, means connecting the pad to the tube for movement therewith and for receiving oil therefrom, and means between the tube and pad for resiliently urging the pad into facial engagement with the flange of a car wheel.

2. A flange oiler as defined in claim 1, said bracket being of a U-shape and including side plates, a ball received by the said plates, said shaft being adjustable in said ball transversely of the bracket, and means for clamping the ball between the plates to hold the ball and the shaft at a desired angle.

3. In a flange oiler for car wheels, as defined in claim 1, a frame plate receiving the pad having a top wall engaging the upper edge of the pad, said upper edge of the pad being provided with a cavity, and a nipple communicating with the oil conducting tube extending through said top wall and into the cavity.

4. In a flange oiler for car wheels, an oil applicator including a frame plate having a top wall, a pad for wiping contact with the flange of a wheel secured to the frame plate, an oil conducting tube rockably mounted on a part of the frame of a railroad car truck adjacent to the wheel flange to be oiled, a block carried by said tube having a way communicating with the tube, a depending neck on said block communicating with the way, said neck being fitted against the top wall of the frame plate, a feed nipple extending into and communicating with the neck and loosely mounted in an opening in the top wall, a laterally extending arm secured to the top wall projecting away from the pad, and a spring carried by said block engaging the arm for normally moving the frame plate on the nipple with the pad toward the flange of the car wheel.

5. In a flange oiler for car wheels as defined in claim 4, and said pad having a cavity receiving the nipple.

6. In a flange oiler for car wheels as defined in claim 4, said pad having a cavity receiving the nipple, and said frame plate having a feed channel extending down from the cavity over one face of the pad.

7. In a flange oiler for car wheels, an oil applicator for wiping engagement with the wearing face of the flange of a car wheel including a supporting bracket adapted to be secured to the frame of a car adjacent to the car wheel to be oiled, a shaft, a universal joint connection between the shaft and bracket, an oil conducting tube carried by the shaft and extending toward and over the car wheel, means for supplying oil to the tube, and an applicator pad carried by the tube for receiving oil therefrom, said shaft, tube and pad being bodily adjustable as a unit on the

bracket through said universal joint connection to initially adjust the pad relative to the flange of the wheel and at right angles thereto, and cooperative clamping means on the shaft and bracket including the universal joint connection for holding the shaft, tube and pad in said initial adjusted position, said shaft being freely rockable in the universal joint at all times.

8. A flange oiler for car wheels as defined in claim 7, and means normally urging the pad into sealing contact with the flange of a car wheel.

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