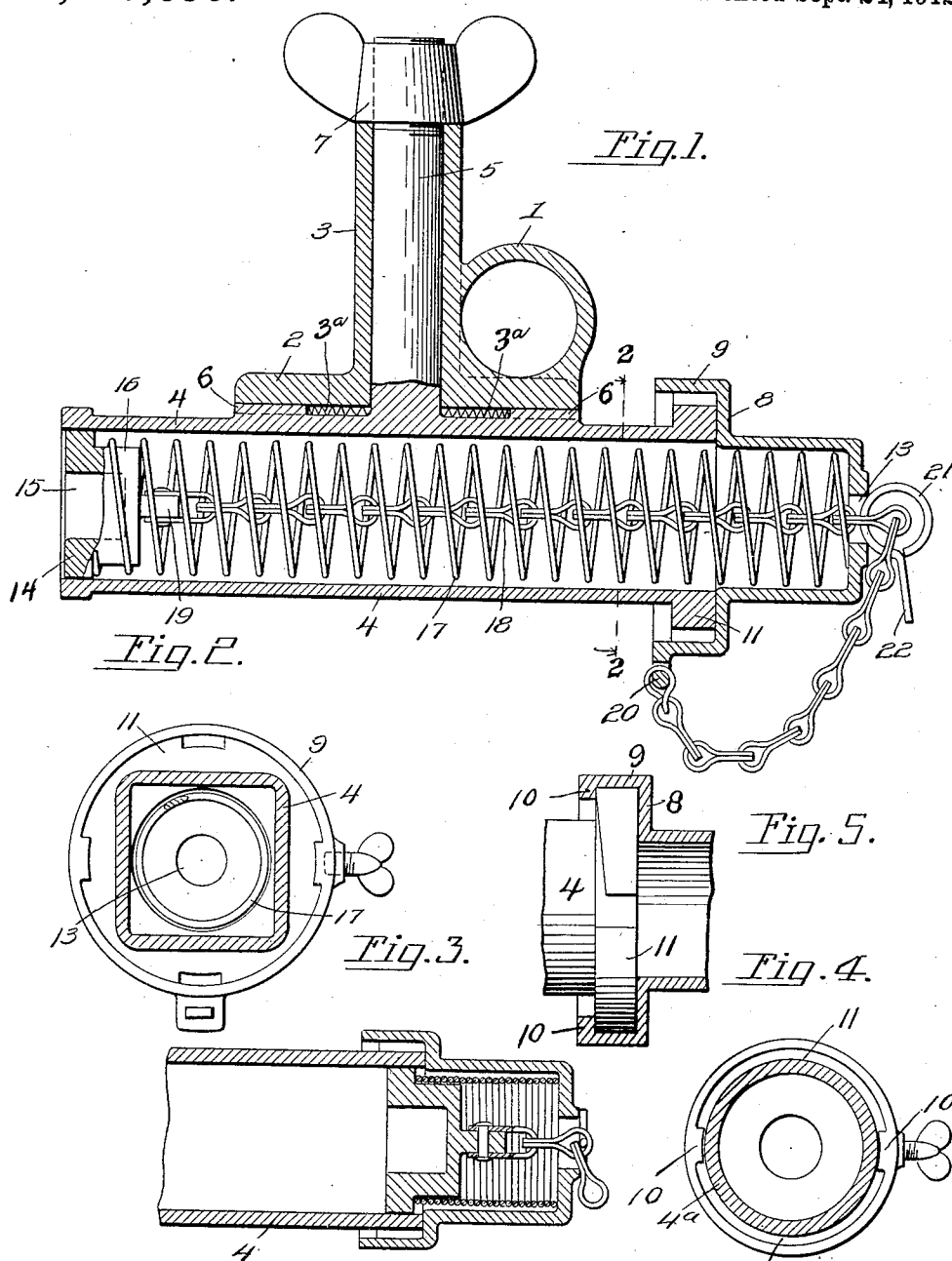


P. CONNIFF.
WHEEL FLANGE LUBRICATOR.
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1,039,650.

Patented Sept. 24, 1912.



Witnesses
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PHILIP CONNIFF, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE COLLINS METALLIC PACKING COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION.

WHEEL-FLANGE LUBRICATOR.

1,039,650.

Specification of Letters Patent.

Patented Sept. 24, 1912.

Application filed March 22, 1911. Serial No. 616,067.

To all whom it may concern:

Be it known that I, PHILIP CONNIFF, a citizen of the United States, residing at Washington, in the District of Columbia, have invented new and useful Improvements in Wheel-Flange Lubricators, of which the following is a specification.

This invention relates to wheel flange lubricators of the type disclosed in my prior Patent No. 990,034, dated April 18, 1911, for lubricating the flanges of locomotive and car wheels, the object of the present invention being to provide a simple, effective, reliable and inexpensive device for feeding up and holding a bar of lubricant in contact with the wheel flange until it is practically entirely consumed.

A further object of the invention is to provide a device which affords conveniences in the application of a lubricating bar for use and removal of the operating parts for cleaning, repairs or other purposes.

The invention consists in the features of construction, combination and arrangement of parts, hereinafter fully described and claimed, reference being had to the accompanying drawing, in which:—

Figure 1 is a vertical longitudinal section through a lubricator embodying my invention, showing the follower at the limit of its feeding movement. Fig. 2 is a vertical transverse section on the line 2—2 of Fig. 1. Fig. 3 is a section similar to Fig. 1 through the rear end of the holder, showing the follower retracted. Fig. 4 is a view similar to Fig. 2, showing a slight modification. Fig. 5 is a side view of the rear end of the holder and a longitudinal section through the cap, showing the coupling connection between the two.

Referring to the drawing, 1 designates a sleeve or coupling member adapted to engage a bracket arm suitably mounted upon the frame structure or truck of a car, said member being provided with a disk or head 2 and an upstanding tubular portion 3, the bore of which communicates with an opening in the head at one side of the sleeve. The head or sleeve 2 is provided on its under side, at diametrically opposite sides of its center, with locking teeth or projections 3^a. Adjustably connected with the said coupling member is a lubricant holder or support 4, consisting of an elongated box or

casing open at each end, and adapted to receive a bar of lubricating material which in practice projects from the open forward end of said casing to engage the face and edge of the flange of the wheel. The casing is provided at the top with a stem 5 rotatably mounted in the tubular portion 3 and is formed around the base of said stem with an annular locking head provided with teeth 6 to interlock with the teeth 3^a, whereby the holder may be adjusted laterally at any desired angle to the coupling member and locked against turning movement. The upper end of the stem 5 is threaded to receive a clamping nut 7, by which the toothed locking portions may be drawn into close locking engagement.

The rear end of the casing is preferably provided with a detachable cap 8 having a flanged annular coupling portion 9 to inclose the rear end of the casing and provided with spaced lugs 10 adapted to interlock with circumferentially spaced cam flanges 11 on the casing. In applying and removing the cap the lugs are brought into registry with the spaces between the flanges and slid longitudinally on or off the rear end of the casing, the lugs being engaged with or disengaged from the cam faces of the flanges by a rotary movement of the cap in one direction or the other. If desired, the cap may be provided with a set screw 12 for engagement with one of the flanges to hold it firmly against retrograde movement under the jars and vibrations to which the device is subjected in use. The body of the cap is formed in its rear wall with an opening 13 and is substantially of the same cross sectional dimensions as the casing to form an extension thereof.

Mounted for sliding movement in the casing is a follower 14 adapted to bear upon the rear end of the lubricant bar to feed the latter forward through the open front end of said casing. This follower is preferably formed with a socket 15 to receive a tenon upon the rear end of the lubricant bar, by which the bar will be held thereby against displacement and may be fed up against the flange of the wheel until it is practically entirely worn away or consumed. The follower is also provided with a reduced neck 16 encompassed by the forward convolutions of a coiled feeder spring 17 adapted

to be placed under tension upon the insertion of the lubricant bar for subsequent retraction to automatically feed the bar forward. The spring bears at its rear end

- 5 against the rear wall of the cap and is of proper length when expanded to extend the full length of the casing and to force the bar at all times with a proper degree of pressure against the wheel flange.
- 10 A chain or other flexible pull connection 18 is connected by its front link with a stem 19 upon the follower and thence projects rearwardly through the convolutions of the spring and through the opening 13
- 15 in the cap and is permanently attached by its rear link to an apertured lug 20 on the cap. At a suitable point between the ends of the chain a ring 21 or other suitable gripping device is engaged with one of the
- 20 links of the chain, whereby the latter may be drawn rearwardly to slide the follower backward within the casing and to place the spring under tension. This ring or finger grip is also so arranged as to abut
- 25 against the cap when the follower reaches the limit of its forward motion to prevent displacement of said follower from the casing. The ring or finger grip is provided with a pin or locking projection 22 which
- 30 may be engaged with any of the links of the chain to hold the follower retracted and the spring compressed to any desired degree, by which the forward feed of the bar may be arrested in adjusting or removing the
- 35 holder, as will be readily understood. The follower may be retracted until its neck projects into the cap and the spring is fully compressed and housed therein, in which position said parts may be held by the pin 22,
- 40 as shown in Fig. 3, allowing the cap and the feed mechanism to be simultaneously detached from the casing and held in close compass while the casing is being applied, adjusted, cleaned or repaired. Upon removing
- 45 the cap and feed mechanism the lubricant bar may be slipped into the casing at the rear end thereof, thus obviating the necessity of shifting the casing out of normal position, as is required in the operation
- 50 of inserting the bar into the casing at the forward end thereof. It will, of course, be understood that the bayonet-joint connection between the cap and casing adapts the cap to be applied and detached by minimum
- 55 rotary movements, so as to avoid undue twisting of the spring and chain, such as would occur in the use of a threaded cap.

In practice, the lubricant bar may be applied in either of the ways described and the follower operates under the action of the spring to feed the same forward as it is worn away by the flange of the wheel, whereby the forward end of the bar is constantly maintained in engagement with the

60 flange to effectually lubricate the edge and

face thereof. When the bar is entirely consumed, the follower may for convenience be retracted in the manner shown in Fig. 3 and the cap and feed mechanism removed for the insertion of a new bar. It will be observed that the construction described in addition to insuring a positive feed motion permits the bar and follower to move backwardly under pressure upon the bar from the flange of the wheel when the latter

70 shifts laterally in order to prevent possible damage to the bar or appliance from the thrust pressure.

While the casing is preferably of rectangular form in cross section to receive a

80 correspondingly shaped bar, a casing 4^a of substantially circular form in cross section, as shown in Fig. 4, may be employed for the reception of a bar or stick of circular form in cross section which may under some

85 conditions be employed. These and other modifications are held to fall within the spirit and scope of my invention.

Having thus described my invention, I claim:—

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1. In a wheel-flange lubricator, the combination of a holder adapted to contain a solid bar of lubricant, said holder being open at its opposite ends, a detachable closure for the rear end of the holder, said closure having an opening therein, a follower within the holder for feeding the bar of lubricant through the open front end of the holder, a coiled spring for forcing the follower forward, said spring being arranged within the holder between said follower and closure and extending rearwardly through the spring and outwardly through the opening in the closure, a pull connection attached to the follower and movable through the opening in the closure, whereby the follower may be retracted and the spring collapsed and the two held nested against the closure for withdrawal therewith, and means adapted for coaction with said pull connection and closure to hold the follower and spring retracted and in fixed relation to the closure.

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2. In a wheel-flange lubricator, the combination of a holder adapted to contain a solid bar of lubricant, said holder being open at its opposite ends, a detachable closure for the rear end of the holder, said closure having an opening therein, a follower within the holder for feeding the bar of lubricant through the open front end of the holder, a coiled spring for forcing the follower forward, said spring being arranged within the holder between said closure and follower, a flexible pull connection attached to the follower and extending rearwardly through the spring and outwardly through the opening in the closure, a finger piece connected with the exteriorly projecting portion of the pull connection and adapted to abut

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against the closure to limit the forward movement of the follower and whereby said follower may be retracted and the spring collapsed and the two held nested against the closure for withdrawal therewith, and means carried by said finger piece and engageable with said pull connection to hold the follower and spring retracted and in fixed relation to the closure.

3. In a wheel-flange lubricator, the combination of a holder adapted to contain a solid bar of lubricant, said holder being open at its opposite ends, a closure cap having a detachable bayonet-joint connection with the rear end of the holder, said closure cap having an opening therein, a follower within the holder for feeding the bar of lubricant through the open front end of the holder, a coiled spring for forcing the follower forward, said spring being arranged within the holder between said closure cap and follower, a retracting chain attached to the follower and extending rearwardly through the spring and outwardly through the opening in the closure, whereby the follower may be retracted and the spring collapsed and the two held nested against the closure cap for withdrawal therewith and means engageable with a link of the chain and adapted to rest against the closure cap to hold the follower and spring retracted and in fixed relation to said closure cap.

4. In a wheel-flange lubricator, the combination of a holder adapted to contain a solid bar of lubricant, said holder being open at its opposite ends, a detachable cap for closing the rear end of the holder, said cap having an opening therein, a follower within the holder for feeding the bar of lubricant through the open front end of the holder, a coiled spring for forcing the follower forward, said spring being arranged within the holder between said closure cap and follower, a retracting chain attached to the follower and extending rearwardly through the spring and outwardly through the opening in the closure, a finger ring attached to the projecting portion of the chain

whereby the follower may be retracted and the spring collapsed and said follower and spring held nested against the cap for withdrawal therewith, said ring being arranged to abut against the cap and limit the extent of forward movement of the follower, and a pin or projection carried by said ring and engageable with a link of the chain to hold the follower and spring retracted and in fixed relation to the cap.

5. In a wheel-flange lubricator, the combination of a holder adapted to contain a solid bar of lubricant, said holder being open at its opposite ends, a chambered closure cap having a detachable bayonet-joint connection with the rear end of the holder and provided with an opening in its rear wall, a follower within the holder for feeding the bar of lubricant through the open front end of the holder, said follower being provided with a reduced portion of a size to enter the chamber of the cap, a coiled spring for forcing the follower forward, said spring being seated at its rear end in the cap chamber and having its forward end surrounding the reduced portion of the follower, a retracting chain connected with said reduced portion of the follower and extending rearwardly through the spring and outwardly through the opening in the rear wall of the cap, whereby the follower may be drawn rearwardly and the spring compressed and the reduced portion of said follower and the compressed spring held within the cap chamber, a finger ring connected with the projecting end of the chain and adapted to abut against the cap to limit the forward movement of the follower, and a pin or projection carried by said ring for engagement with a link of the chain to hold the follower and spring retracted and in fixed relation to the cap.

In testimony whereof I affix my signature in presence of two witnesses.

PHILIP CONNIFF.

Witnesses:

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E. EDMONSTON, Jr.