(No Model.)

A. W. WARD.

CAR WHEEL LUBRICATOR.

No. 457,019. Patented Aug. 4, 1891.

Fig. 1.

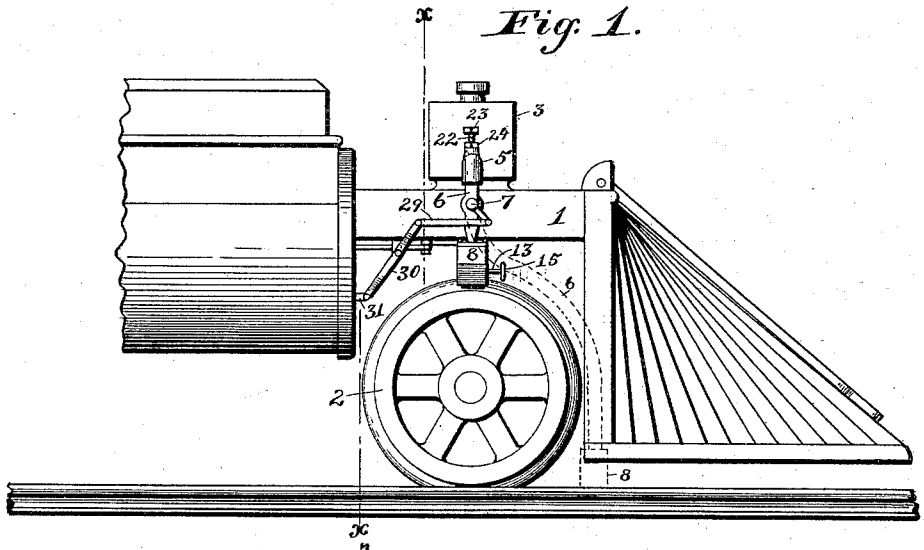


Fig. 4.

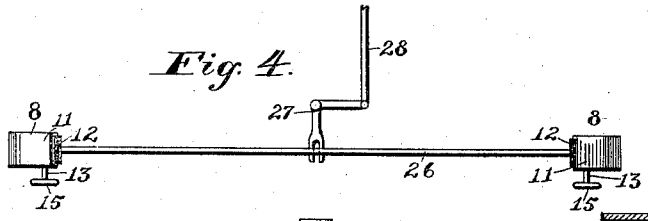


Fig. 3

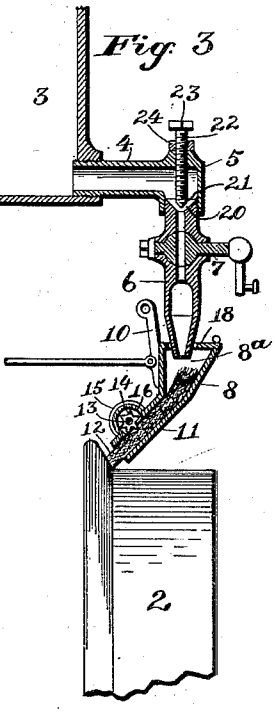


Fig. 2.

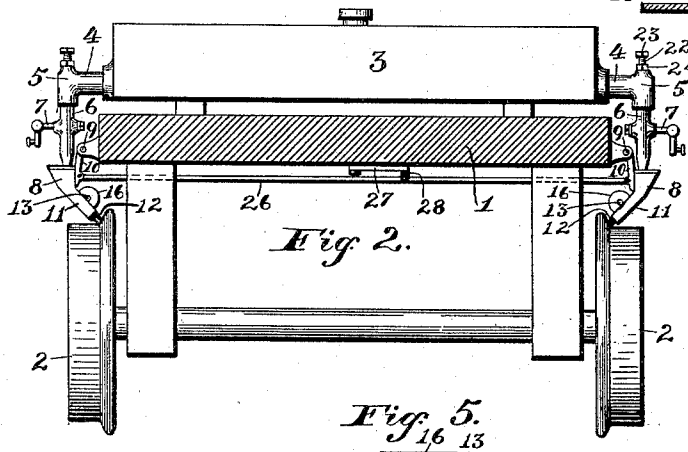
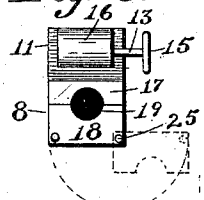


Fig. 5.



Witnesses

Roy C. Bowen

J. A. Saul

Inventor

Andrew W. Ward,

By his Attorneys,

C. A. Snow & Co.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ANDREW W. WARD, OF CHARLESTON, ASSIGNOR OF ONE-FOURTH TO JOHN Q. DICKINSON, OF MALDEN, WEST VIRGINIA.

CAR-WHEEL LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 457,019, dated August 4, 1891.

Application filed April 1, 1891. Serial No. 387,228. (No model.)

To all whom it may concern:

Be it known that I, ANDREW W. WARD, a citizen of the United States, residing at Charleston, in the county of Kanawha and State of West Virginia, have invented a new and useful Car-Wheel Lubricator, of which the following is a specification.

My invention relates to means for lubricating the flanges of car-wheels, but is more especially designed to be used upon locomotives to lubricate the flanges of the front wheels.

It is well known that engines frequently leave the track when passing around short curves, the cause being that the increased friction between the flanges of the wheels and the outside curved rail causes the flanges to "climb" the rail, thus throwing the engine from the track.

The object of this invention is to provide means whereby the flanges of the wheels (or the inner edges of the curved rail) may be lubricated to reduce this friction, and thus prevent the engine from leaving the track, and so save the danger to life and railroad property consequent upon such accidents. This object and such others as fairly fall within the scope of the invention I attain by means of the mechanism illustrated in the accompanying drawings, the peculiar construction, combination, and arrangement of which will be fully described hereinafter, and the points of novelty particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a side elevation of the front part of an engine having my invention applied thereto. Fig. 2 is a sectional view on the line $x\ x$ of Fig. 1. Fig. 3 is an enlarged sectional view through the oil-feeding devices. Fig. 4 is an inverted view of the device for controlling the contact of the wicks with the wheels, and Fig. 5 is a top plan view of the wick-box.

Similar numerals of reference indicate corresponding parts in the several views.

1 designates the front platform or truck of an engine, mounted upon the wheels 2, and having a reservoir 3 mounted upon and extending transversely across the same. A pipe 4 extends from the ends of the reservoir, at the lower part thereof, out over the wheels 2, and terminates in an elbow 5. A pipe 6, having a stop-cock 7, is secured to the elbow 5 and depends toward the wheel. A wick-box 8 is pivoted to the sides of the platform or truck 1, as at 9, by means of an arm 10, extending upwardly from the inner side of the wick-box 8 to the pivot 9, as shown in Fig. 2. The lower portion 11 of the wick-box 8 is reduced in size in cross-section and bent inwardly toward the flange of the wheel, and in the upper portion thereof is formed a supplemental air-chamber 8^a. A wick 12 of suitable absorbent material is fitted in the lower reduced portion 11 of the wick-box 8 and extends out from the lower end thereof against the flange of the wheel, as shown in Figs. 2 and 3. For moving the wick up or down the usual device is used, consisting of a shaft 13, mounted upon the wick-box and carrying a serrated wheel or wheels 14, which engage the wick, and a thumb-wheel 15, by means of which it may be turned to operate the wick, as will be readily understood. The serrated wheels are inclosed in a casing 16 to protect them from dust.

The wick-box 8 is provided with a cover formed in two sections 17 and 18, and an opening 19 is formed through the said cover, for a purpose which will appear hereinafter.

When the wick-box 8 is hung in its proper position, it is situated directly below the pipe 6, and the lower reduced end of the said pipe extends into the opening 19 in the top of the wick-box, the lower end of the wick-box, from which the wick projects, hangs in close proximity to the flange of the wheel, so that the projecting end of the wick 12 will be in contact with the said flange of the wheel. From the foregoing it will be seen that when the stop-cock 7 is open the oil from the reservoir will flow through the pipe 6 into the wick-box 8 and be fed by the wick to the flange of the wheel. In the upper end of the pipe 6 is formed a conical valve-seat 20 to receive a conical valve 21, the stem 22 of which latter is screw-threaded and passes through a correspondingly-threaded opening in the top of the elbow 5. A square head 23 is formed upon the upper end of the valve-stem 22, by means of which it may be turned to open or close the valve, and so regulate the flow of the oil. A lock-nut 24 is placed upon the valve-stem

22, by means of which the valve may be locked at any desired adjustment.

One of the sections 18 of the cover of the wick-box 8 is pivoted, as at 25, and may be swung round, as shown in dotted lines in Fig. 5, to open the wick-box when it is desired to remove or renew the wick.

Both sides of the front truck or platform of the engine are provided with the lubricating devices hereinbefore described, and the two wick-boxes 8 8 are connected together by a rod 26, pivoted at its ends to the said boxes. A bell-crank lever 27 and rod 28 (or other suitable connections) are used to connect the rod 26 with a suitable handle and locking device (not shown in the drawings) within reach of the engineer, and by means of which he can shift the rod 26 for a limited distance transversely across the front truck of the engine. The stop-cock 7 is also connected, by means of a link 29, a lever 30, and a rod 31, with a handle (not shown) within reach of the engineer.

In operation the reservoir 3 is filled with oil and the regulating-valve 21 adjusted to permit the proper quantity of oil to pass through. When the engine starts, the engineer will open the stop-cock 7 to admit the oil to the wick, from whence it will be fed to the flanges of the wheels. When in the normal position, the two wicks rest lightly against the flanges of the wheels, thus feeding a very small quantity of oil upon them. When about to pass into a curve, the engineer can shift the rod 26 to cause the wick on the outside to press closely against the flange of the outside wheel, thus pressing out a larger quantity of oil upon that flange, which is then pressing hard against the rail. This movement will cause the wick-box on the opposite side (inside of the curve) to move away from the flange of the inside wheel, which, as it is not touching the rail at this time, requires no oil.

It will be understood that I do not wish to limit myself to the precise details of construction as herein described, as many modifications may be made therein without departing from the spirit of the invention—as, for instance, should it be desirable to oil the inner edges of the rails, instead of the flanges of the wheels, I may extend the pipe 6 downwardly, as shown in dotted lines in Fig. 1, and hang the wick-boxes in proper position to present the wicks to the inner edges of the rails. In this instance the wick-boxes need not be pivoted to the truck and connected together by a rod, as 26, for if the boxes are rigid and the wicks extend a short distance beyond the flanges of the wheels the tendency of the engine to press against the rail on the outside of the curve will press the wick against the rail on that side.

I do not wish to confine myself to placing the oil-reservoir upon the front truck or platform, as it is obvious that it may be placed at any suitable point upon the engine or tender; or a smaller reservoir may be placed on each side of the engine in any desirable position and suitably connected with the feeding-pipes.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The reservoir, regulating means for the escape of oil therefrom, a supplemental oil-chamber communicating with the reservoir, and a wick carried by the oil-chamber and held in contact with the flanges of the wheels or the rails, substantially as described.

2. The reservoir, regulating means for the escape of oil therefrom, a supplemental oil-chamber communicating with the reservoir, and a wick carried by the oil-chamber and held in contact with the flanges of the wheels or the rails, and means for extending and contracting the wick, substantially as described.

3. The reservoir, regulating means for the escape of oil therefrom, a supplemental oil-chamber hinged to the truck and provided with pipe connections with the oil-reservoir, devices for moving the oil-chamber to or from the flanges of the wheels, and a wick carried by the oil-chamber to make contact with the flanges of the wheels, substantially as described.

4. The combination, with the wheels of an engine, of an oil-reservoir, pipes extending from the said reservoir, regulating-valves in the said pipes, supplemental oil-chambers with which the said pipes connect, wicks carried by the oil-chambers and projecting against the flanges of the wheels, means for regulating the said wicks in the oil-chambers, and means for moving the said oil-chambers to or from the flanges of the wheels, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

ANDREW W. WARD.

Witnesses:
J. H. SIGGERS,
R. W. DAYTON.