

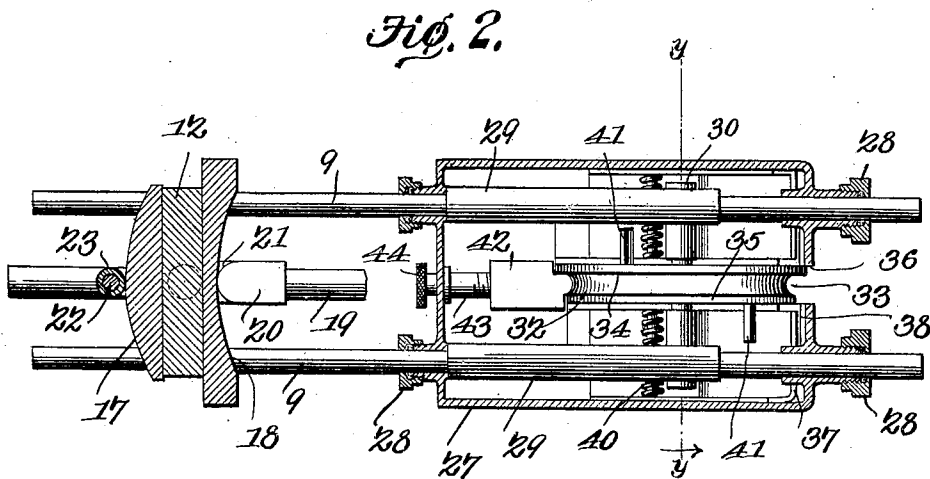
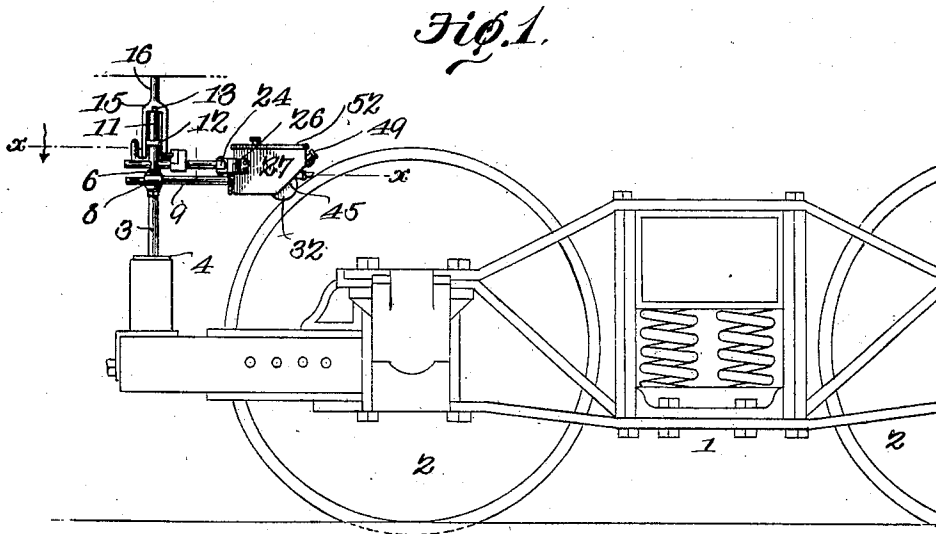
No. 824,873.

PATENTED JULY 3, 1906.

E. E. KEEFE.
LUBRICATOR.

APPLICATION FILED APR. 4, 1906.

2 SHEETS—SHEET 1.



WITNESSES:

E. E. Keefe
Arthur D. Lawson

Eugene E. Keefe,
INVENTOR

By *C. A. Snow & Co.*
ATTORNEYS

No. 824,873.

PATENTED JULY 3, 1906.

E. E. KEEFE.
LUBRICATOR.

APPLICATION FILED APR. 4, 1906.

2 SHEETS—SHEET 2.

Fig. 3.

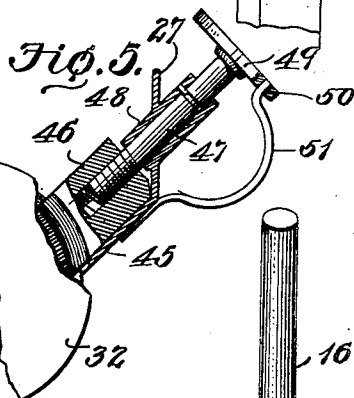
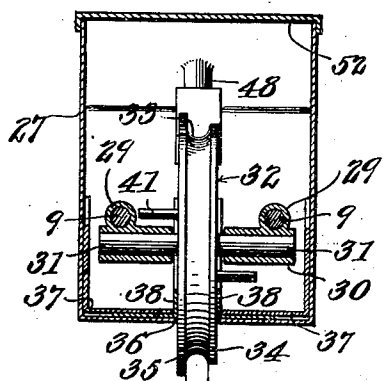


Fig. 7.

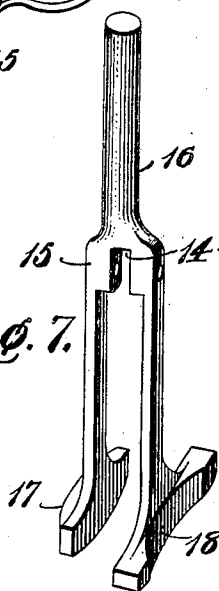


Fig. 8.

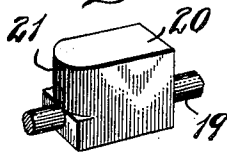


Fig. 4.

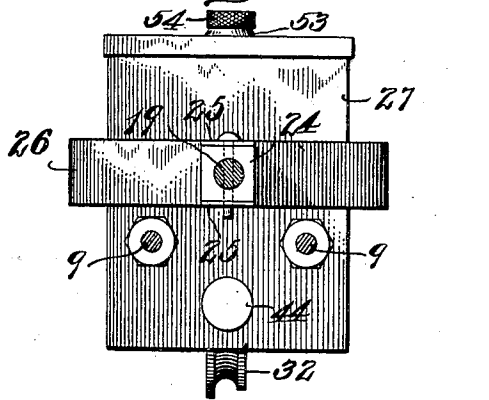
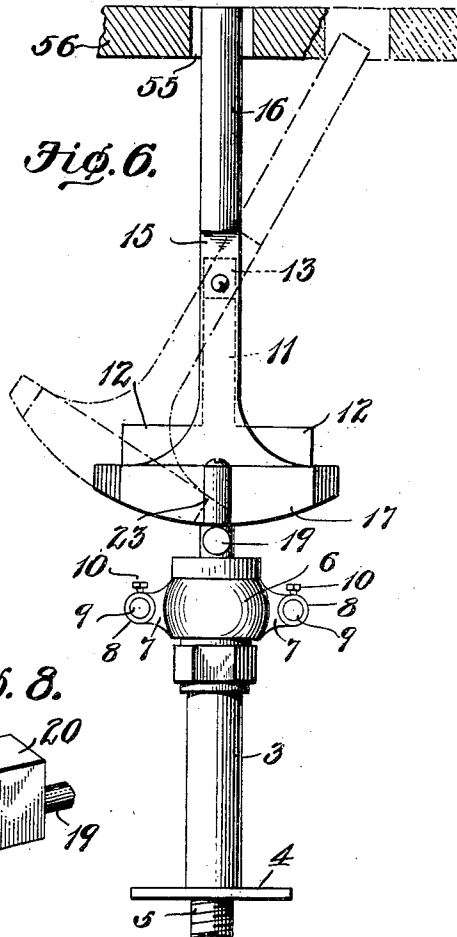


Fig. 6.



WITNESSES:

E. J. Stewart
Robert D. Lawson

Eugene E. Keefe, INVENTOR.
By *Chas. Snow & Co.*
ATTORNEYS

UNITED STATES PATENT OFFICE.

EUGENE E. KEEFE, OF BELLOWS FALLS, VERMONT.

LUBRICATOR.

No. 824,873.

Specification of Letters Patent.

Patented July 3, 1906.

Application filed April 4, 1906. Serial No. 309,861.

To all whom it may concern.

Be it known that I, EUGENE E. KEEFE, a citizen of the United States, residing at Bel-
lows Falls, in the county of Windham and
State of Vermont, have invented a new and
useful Lubricator, of which the following is a
specification.

This invention relates to lubricators; and
its object is to provide a device of this char-
acter for applying lubricant to the flanges of
car-wheels while the car is passing around
curves, so as to prevent the flanges from
chipping or grinding during said movement.

Another object is to provide a lubricator
which will only operate while the car is on a
curve, said operation being automatic.

A still further object is to provide a lubri-
cator which is normally out of contact with
the car-wheels and which is applied thereto
when the car moves on a curve.

Another object is to provide means for pre-
venting the admission of dirt, &c., into the
lubricant-receptacle during the operation of
the device and to regulate the discharge of
lubricant from the receptacle.

With the above and other objects in view
the invention consists of a receptacle which is
slidably mounted on guide-rods and carries a
distributing-wheel which is normally sup-
ported close to but out of contact with the
flange of one of the car-wheels. A rocking
lever is mounted adjacent the receptacle and
is adapted to be actuated by the lateral
movement of the car-body while passing
around curves, said rocking movement caus-
ing the distributing-wheel to move into con-
tact with the flange of the car-wheel and to
be rotated by frictional contact thereon.
This rotation will cause the distributing-
wheel to remove a portion of the lubricant
from the receptacle and apply it to the flange
of the car-wheel as long as the car is upon the
curve. Adjustable means are located within
the receptacle for preventing dirt from pass-
ing into the lubricant-receptacle from the
distributing-wheel and also for regulating
the discharge of lubricant from the receptacle.

The invention also consists of certain other
novel features of construction and combina-
tions of parts, which will be hereinafter more
fully described, and pointed out in the claims.

In the accompanying drawings is shown
the preferred form of the invention.

In said drawings, Figure 1 is a side eleva-

tion of a truck having this improved lubri-
cating attachment mounted thereon, a por-
tion of the car-body being shown in position
thereabove. Fig. 2 is an enlarged section on
line *x x* of Fig. 1. Fig. 3 is a section on line
y y of Fig. 2. Fig. 4 is a front elevation of
the receptacle and buffer-spring, the actu-
ating-rod being shown in section. Fig. 5 is an
enlarged section through a portion of the rear
of the receptacle and showing the adjustable
feed-rocking device. Fig. 6 is an end eleva-
tion of the rocking lever on its standard and
showing the relative positions of the operat-
ing-rod and the guide-rods, one of the posi-
tions of the rocking lever being shown by
dotted lines. Fig. 7 is a detail view of the
rocking lever, and Fig. 8 is a similar view of
the head on the operating-rod.

Referring to the figures by numerals of ref-
erence, 1 is a car-truck of any suitable con-
struction, and 2 represents car-wheels by
which it is supported in the usual manner.
A standard 3 is mounted on the truck and has
a base 4, which is clamped thereagainst by
means of a bolt 5 or in any other desired man-
ner, it being necessary that the standard be
very rigidly supported upon the truck. Said
standard has a head 6, provided with later-
ally-extending gears 7, which are formed
with parallel sleeves 8, in which are securely
fastened guide-rods 9, which are parallel and
extend, preferably, at right angles to the
standard 3 and to points adjacent the upper
portion of one of the wheels 2. These rods
are preferably adjustably mounted within the
sleeves and are held against displacement by
set-screws 10.

Extending upward from the standard 3
and its head 6 is a stem 11, having oppo-
sately-extending guide-arms 12 at a point ad-
jacent its lower end, said guide-arms being
disposed at right angles to the guide-rods 9.
The upper end of the stem is reduced to form
a flat ear 13, which projects into a recess 14,
formed within the head 15 of a lever 16. The
forked portion of this lever straddles the stem
11 and arms 12, and the free ends of the fork
have parallel cam-faces 17 and 18, the face 17
being convex and the face 18 concave, as
shown particularly in Fig. 7 of the drawings.
These cam-faces are disposed directly above
an operating-rod 19, on which is secured a
head 20, having a rounded end 21, which pro-
jects into the concave portion 18. A stud 22

is also disposed on the rod 19 and has a roller 23 thereon which bears against the convex face 17, said head 20 and roller 23 being spaced apart a distance equal to the distance
5 between the two faces 17 and 18.

The rod 19 has an enlargement 24 at one end, which projects between and is secured to ears 25, extending forward from the central portion of a bow-spring 26, which embraces
10 one end of a receptacle 27 and is secured to the sides thereof in any desired manner. This receptacle is slidably mounted on the guide-rods 9, which extend through the ends thereof. Suitable packing 28 is arranged upon
15 the ends of the receptacle where the rods extend therethrough, so as to prevent leakage of lubricant at these points. Tubes 29 are loosely mounted on the rods 9 and within the receptacle, and each of these tubes supports a
20 sleeve 30. These sleeves constitute bearings for trunnions 31, extending laterally from the center of a feed-wheel 32. This wheel has an annular groove 33 in its periphery and is provided at opposite sides of the groove with annular flanges 34 and 35, the peripheries of
25 which are at different distances from the center of the wheel. Wheel 32 projects a short distance through a slot 36, formed in the bottom of the receptacle 27, and secured within
30 the receptacle at opposite sides of the wheel is a false bottom 37, under which are slidably mounted L-shaped clamping-plates 38, the upstanding portions of which are held in contact with the faces of the wheel by means of
35 coiled springs 39, which are mounted on stems 40, extending inward from the sides of the receptacle. A suitable number of stirring-blades 41 extend laterally from the wheel and are for the purpose of agitating the lubricant while the wheel is revolving, so as to
40 keep it thoroughly mixed.

A scraping-block 42 is slidably mounted upon the bottom of the receptacle adjacent the front end thereof, and one end of this
45 block is shaped to fit within the groove 33 of wheel 32 and upon the flange thereof. Said block therefore prevents dirt or other undesirable accumulations upon the outer portion of the wheel 32 from passing into the receptacle 27 and mixing with the lubricant. This
50 scraping-block 42 may be adjusted by means of a stem 43, which is threaded therinto and is swiveled in the front wall of the receptacle 27. The upper end of this stem has a head
55 44 to facilitate its manual rotation.

The rear wall of receptacle 27 is beveled at its lower portion, as shown at 45, said beveled portion constituting part of the bottom of the receptacle and the slot 36 extending
60 thereinto. This beveled portion constitutes a support for the feed-regulating block 46, which is held in an inclined position thereby and has one end shaped so as to conform with the periphery of wheel 32. This block is en-
65 gaged by the threaded end of a stem 47,

swiveled in a sleeve 48, extending through the rear wall of the receptacle 27, and a head 49 is located on the upper end of stem 47, so as to render the same easy to rotate. This head is preferably provided with a series of
70 openings 50 adjacent its periphery, any one of which may be engaged by the end of a locking-spring 51, secured to the receptacle at one end. By means of the stem 47 the block 46 can be adjusted from or toward the wheel
75 32, so as to regulate the quantity of lubricant carried from the receptacle upon the periphery of said wheel. A cover 52 is hinged at one end to the receptacle 27 and is adapted to be held in closed position by any suitable
80 means. This cover has an inlet-opening from which extends a yoke 53, adapted to be closed by a screw-cap 54.

In use the standard 3 is rigidly fastened upon a truck in such position that the feed-
85 wheel 32 will be close to the upper portion of but not above one of the wheels 2. The guides 9 are so disposed that when longitudinal movement is imparted to the receptacle the wheel 32 will assume a position
90 with the flange of wheel 2 within the groove 33. The upper end of the lever 16 projects into an opening 55, formed in the bed 56 of the car-body, and when the trucks are in their normal positions this lever will be supported in a substantially upright position.
95 The receptacle 27 is filled with a suitable lubricant, which will of course be kept from escaping therefrom by the clamping-plates 38, the scraping-block 42, and the feed-regulating block 46. When the car travels forward on a straight track, the parts will be maintained in inoperative position with the wheel 32 out of contact with wheel 2. When,
100 however, the car reaches a curve, the car-body 56 will swing laterally in relation to the truck and will cause the lever 16 to swing upon its pivotal connection with the stem 11. As a result of this movement the cam-faces 17 and 18 will impart a backward movement
110 to the operating-rod 19, and the buffer-spring 26 will be tensioned to such an extent as to propel the receptacle 27 longitudinally on the guide-rods 9. The wheel 32 will thus be brought into contact with the wheel 2, and
115 the flange of said wheel 2 will project into groove 33, as shown in Fig. 3. Said wheel 32 will be rotated by reason of its frictional contact with wheel 2 and will carry from the receptacle and into contact with the flange of
120 wheel 2 all the lubricant adhering to its periphery. The thickness of this adhering lubricant will of course be regulated by the block 46. By adjusting this block away from the wheel 32 a layer of lubricant which
125 is of considerable thickness can be left upon the wheel 32, and by adjusting said block toward the wheel this layer can be diminished in thickness. The lubricant transferred to wheel 2 in this manner will be spread upon
130

the flange of said wheel and carried thereby to the rail, thereby preventing the wheel-flange from chipping and at the same time obviating the scraping or grinding sound which is often produced by wheels while traveling around curves. Of course one of these lubricators is to be provided at each side of the car, and although one may be used in connection with each wheel it is only necessary to use one with each of the front wheels of the car. The lubricant applied to these wheels will be sufficient to lubricate the rails and prevent injury to the wheels following.

It is to be understood that I do not limit myself to the construction herein described, as I am aware that modifications may be made therein without departing from the spirit or sacrificing the advantages thereof, and I therefore reserve the right to make such changes as fairly fall within the scope of the invention.

What is claimed is—

1. The combination with a truck having a car-body supported thereabove; of a lubricator carried by the truck, and means constantly engaging, and positively operated by the car-body for discharging lubricant from the lubricator to a wheel of the truck.

2. The combination with a truck having a car-body supported thereabove; of a lubricator carried by the truck, and laterally-movable means constantly engaging, and positively operated by independent movement of the car-body for directing lubricant upon a wheel of the truck.

3. The combination with a truck and a car-body supported thereabove; of a lubricant-receptacle supported by the truck, a feed device upon the receptacle, and laterally-movable means constantly engaging, and positively operated by independent movement of the truck for shifting the feed device into contact with a wheel of the truck.

4. The combination with a truck and a car-body supported thereabove; of a lubricant-receptacle carried by the truck, a feed device upon the receptacle, and laterally-movable means constantly engaging, and positively operated by the independent movement of the truck for moving the feed device into contact with a wheel of the truck.

5. The combination with a truck and a car-body supported thereabove; of a lubricant-receptacle carried by the truck, a feed device upon the receptacle, and laterally-movable means constantly engaging, and positively operated by the independent movement of the truck for moving the receptacle and feed device longitudinally to bring said feed device in contact with a wheel of the truck.

6. The combination with a truck and a car-body supported thereabove; of a movable receptacle carried by the truck, of a feed-wheel extending therefrom, and laterally-movable

means constantly engaging, and positively operated by the independent movement of the car-body for shifting the feed-wheel into contact with a wheel of the truck.

7. The combination with a truck and a car-body supported thereabove; of guides rigidly connected to the truck, a lubricant-receptacle mounted on the guides, laterally-movable means constantly engaging, and positively operated by the movement of the car-body to actuate the receptacle, and a feed device upon the receptacle and adapted to contact with a wheel of the truck.

8. The combination with a truck and a car-body supported thereabove; of guides rigidly connected to the truck, a lubricant-receptacle mounted on the guides, laterally-movable means constantly engaging, and positively operated by the independent movement of the car-body to actuate the receptacle, and a feed-wheel rotatably mounted within and extending from the receptacle adapted to contact with a wheel of the truck.

9. The combination with a truck and a car-body supported thereabove; of guides rigidly connected to the truck, a lubricant-receptacle mounted on the guides, laterally-movable means constantly engaging, and positively operated by the independent movement of the car-body to actuate the receptacle, a feed-wheel extending from the receptacle and adapted to contact with a wheel of the truck.

10. The combination with a truck and a car-body supported thereabove; of adjustable guides rigidly connected to the truck, a lubricant-receptacle movably mounted on the guides, means constantly engaging, and positively operated by independent movement of the car-body for actuating the receptacle, and a feed device carried by the receptacle and adapted to contact with a wheel of the truck.

11. The combination with a truck and a car-body supported thereabove; of a lubricant-receptacle supported by the truck, a feed device carried by the receptacle, means constantly engaging, and positively actuated by independent movement of the car-body for moving the feed device into contact with a wheel of the truck, and adjustable means for controlling the discharge of lubricant from the receptacle by the feed device.

12. The combination with a truck and a car-body supported thereabove; of guides rigidly connected to the truck, a lubricant-receptacle carried by the guides, means constantly engaging, and positively actuated by independent movement of the car-body for moving the receptacle upon the guides, a feed-wheel carried by the receptacle, and means upon the wheel for preventing the admission to the receptacle of material adhering thereto.

13. The combination with a truck and a car-body supported thereabove; of guides rigidly connected to the truck, a lubricant-

receptacle movably mounted on the guides, means actuated by the independent movement of the car-body for moving the receptacle, a feed-wheel carried by and extending from the receptacle and adapted to contact with the periphery of a wheel of the truck, spring-pressed clamping-plates within the receptacle and contacting with the feed-wheel, and means for regulating the discharge of lubricant by the feed-wheel.

14. The combination with a truck and a car-body supported thereabove; of guides rigidly connected to the truck, a lubricant-receptacle movably mounted on the guides, means actuated by the independent movement of the car-body for moving the receptacle, a feed-wheel carried by and extending from the receptacle and adapted to contact with the periphery of a wheel of the truck, spring-pressed clamping-plates within the receptacle and contacting with the feed-wheel, means for regulating the discharge of lubricant by the feed-wheel, and means within the receptacle for preventing the admission thereto of material adhering to the wheel.

15. The combination with a truck and a car-body supported thereabove; of guides rigidly connected to the truck, a lubricant-receptacle movably mounted on the guides, means actuated by independent movement of the car-body for moving the receptacle upon the guides, a feed-wheel carried by and extending from the receptacle, and mixing devices movable with the feed-wheel.

16. The combination with a truck and a car-body supported thereabove; of guides rigidly connected to the truck, a lubricant-receptacle movably mounted on the guides, means actuated by independent movement of the car-body for moving the receptacle upon the guides, a feed-wheel carried by and extending from the receptacle, and blades extending laterally from the feed-wheel and within the receptacle.

17. The combination with a truck and a car-body supported thereabove; of guides rigidly connected to the truck, a lubricant-receptacle movably mounted on the guides, a feed device carried thereby, an actuating-lever pivotally supported upon the truck and engaging, and adapted to be actuated by independent movement of the car-body, an actuating-rod connected to the receptacle, and means operated by the lever for longitudinally moving the operating-rod and receptacle.

18. The combination with a truck and a car-body supported thereabove; of guides rigidly connected to the truck, a lubricant-receptacle movably mounted on the guides, a feed device carried thereby, an actuating-lever pivotally supported by the truck and engaging, and adapted to be actuated by independent movement of the car-body, an operating-rod resiliently connected to the re-

ceptacle, and means operated by the movement of the lever for longitudinally moving the operating-rod and receptacle.

19. The combination with a truck and a car-body supported thereabove; of guides rigidly connected to the truck, a lubricant-receptacle movably mounted on the guides, a feed device carried thereby, an actuating-lever pivotally supported by the truck and engaging, and adapted to be actuated by independent movement of the car-body, an operating-rod resiliently connected to the receptacle, and a cam carried by the lever for longitudinally moving the operating-rod and receptacle.

20. The combination with a truck and a car-body supported thereabove; of guides rigidly connected to the truck, a lubricant-receptacle movably mounted on the guides, a feed device carried thereby, an actuating-lever pivotally supported by the truck and engaging, and adapted to be actuated by independent movement of the car-body, an operating-rod resiliently connected to the receptacle, oppositely-disposed parallel cam-faces carried by the lever, and means upon the operating-rod for contacting with said cam-faces.

21. The combination with a truck and a car-body supported thereby; of guides carried by the truck, a lubricant-receptacle mounted on the guides, a feed device carried by the receptacle, a standard upon the truck, and a lever fulcrumed thereon and engaging, and adapted to be actuated by independent movement of the car-body, an operating-rod slidably supported above the truck, a resilient connection between said rod and receptacle, projecting devices upon the rod, and oppositely-disposed cams carried by the lever and interposed between and contacting with the projecting devices, the faces of said cams being parallel.

22. A lubricant attachment for cars and the like comprising a standard, guides carried thereby, a cam-lever fulcrumed upon the standard, a lubricant-receptacle slidably mounted on the guides, a feed device carried thereby, and means operated by the cam-lever for moving the receptacle upon the guides.

23. A lubricating attachment for cars and the like comprising a standard, guides carried thereby, a lubricant-receptacle slidably mounted on the guides, a feed device carried thereby, an operating-rod slidably mounted within the standard and connected to the receptacle, and a cam-lever fulcrumed upon the standard and adapted to actuate the rod and the receptacle.

24. A lubricating attachment for cars and the like comprising a standard, guides, a lubricant-receptacle mounted on the guides, a feed device carried thereby, an operating-rod connected to the receptacle, and a cam-lever

fulcrumed upon the standard and adapted to actuate the rod and receptacle.

25. A lubricating attachment for cars and the like comprising a standard, guides, a receptacle on the guides, a feed device on the receptacle, an operating-rod resiliently connected to the receptacle, and a cam-lever for actuating the rod and receptacle.

26. A lubricating attachment for cars and the like comprising guides, a receptacle mounted thereon, a feed device carried by the receptacle, an operating-rod, a resilient connection between the rod and receptacle, and a cam for actuating the rod and receptacle.

27. A lubricating attachment for cars and the like comprising guides, a receptacle mounted thereon, a feed device, an operating-rod, a resilient connection between the rod and receptacle, a cam-lever for actuating the rod and receptacle.

28. A lubricating attachment for cars and the like comprising a standard, guides extending therefrom, a receptacle mounted upon the guides, a feed device, a forked lever fulcrumed upon the standard, cams carried by the lever having parallel faces, an operating-rod slidably mounted within the standard, a resilient connection between the rod and receptacle, and projecting devices upon the rod at opposite sides and contacting with the cams.

29. The combination with a truck and a car-body supported thereabove; of a longitudinal movable lubricant-receptacle mounted on the truck, a feed device, and means constantly engaging, and positively operated by

independent movement of the car-body for shifting the feed device into contact with a wheel of the truck.

30. In a lubricating attachment for cars and the like the combination with a lubricant-receptacle; of a feed-wheel carried thereby and extending therefrom, and a feed-regulating block adjustably mounted within the receptacle to control the discharge of lubricant by the wheel.

31. In a device of the character described the combination with a lubricant-receptacle having a slot therein; of a feed-wheel mounted within the receptacle and extending through the slot, a feed-regulating block adjustably mounted adjacent the periphery of the wheel, and resilient clamping-plates contacting with the faces of the wheel.

32. In a device of the character described the combination with a lubricant-receptacle having a slot therein; of a wheel carried by the receptacle and extending into the slot, spring-pressed clamping-plates slidably mounted within the receptacle and contacting with the faces of the wheel, adjustable means for preventing the admission to the receptacle of material adhering to the wheel, and an adjustable feed-regulating device.

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

EUGENE E. KEEFE.

Witnesses:

ZINA H. ALLBEE,
HERBERT D. RYDER