

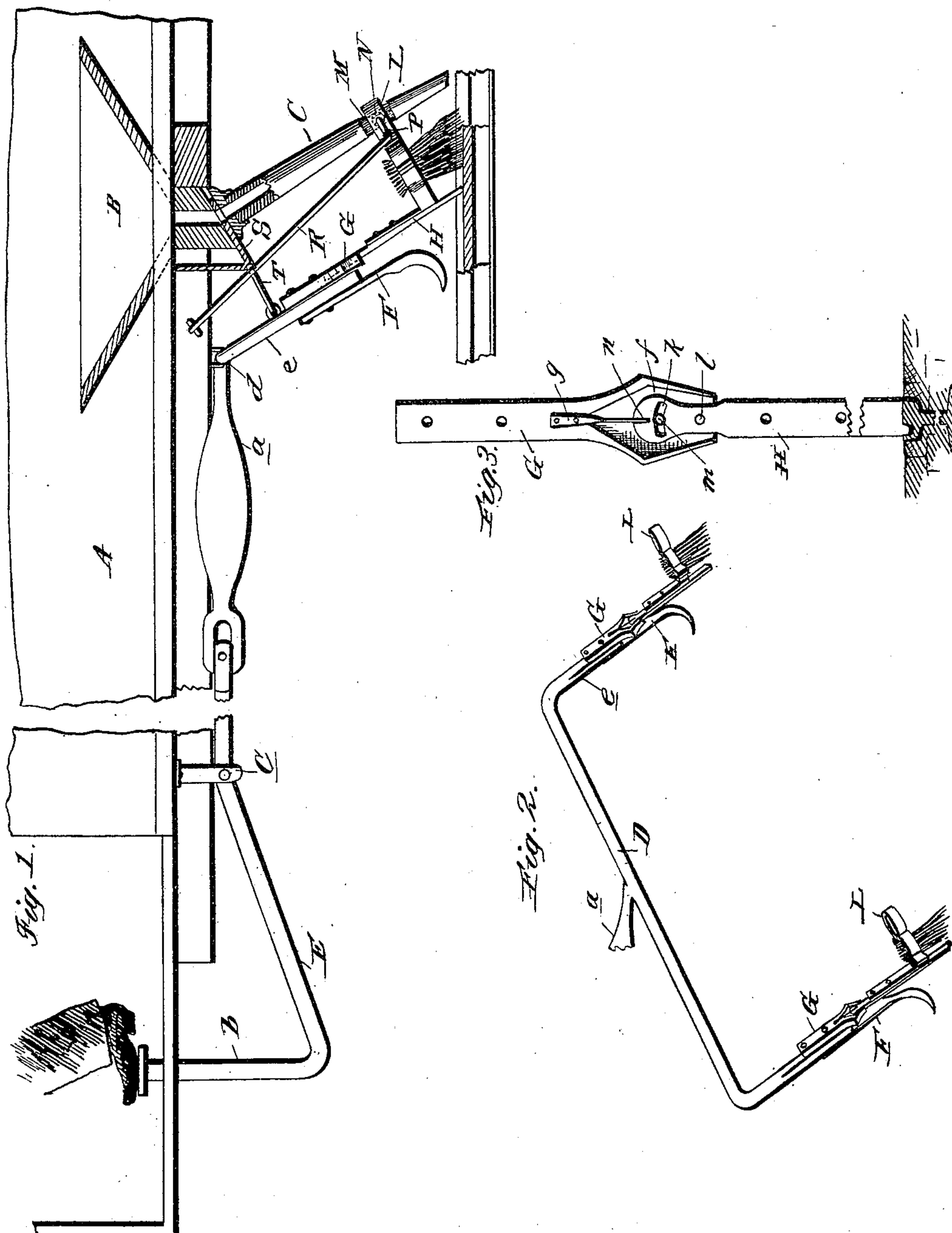
(No Model.)

T. J. KING.

TRACK CLEARING AND LUBRICATING DEVICE.

No. 449,855.

Patented Apr. 7, 1891.



Witnesses  
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# UNITED STATES PATENT OFFICE.

THEODORE J. KING, OF WASHINGTON, DISTRICT OF COLUMBIA.

## TRACK CLEARING AND LUBRICATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 449,855, dated April 7, 1891.

Application filed February 25, 1890. Serial No. 341,729. (No model.)

*To all whom it may concern:*

Be it known that I, THEODORE J. KING, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Track Clearing and Lubricating Devices; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to attachments for cars, and is designed as an improvement upon the devices shown and described in the application filed by me November 9, 1889, Serial No. 329,811.

The main object of the present invention is to more effectually clean the groove of the track or rail at the curves, which has heretofore formed a trap or receptacle for a great portion of dust and dirt brought by the brushes or scrapers from the straight portions of the rails.

With the brushes and clearing devices heretofore used it has been found that as the car nears a curve its forward portion deflects from its true course. As a consequence the clearing devices carried thereby follow the movement of the car and either leave the rail altogether untouched or move in such a manner as to heap the dirt and dust into the grooves, thereby increasing the friction at this point, and consequently increasing the draft.

Another source of annoyance and expense has been the frequent lubrication of the rails at curves, and in some instances this has been attended by the employment of men at such points to keep the groove clear and the rails oiled or watered.

To overcome the objectionable necessity of having an attendant clean and lubricate the curve is another object of my invention, and with the means I have provided for such purposes the driver or operator of a car may by a simple depression of his foot upon a lever bring the clearing and lubrication devices into operation without taking his mind from his other duties.

Other objects and advantages will appear

from the following description and claims, when taken in connection with the annexed drawings, in which—

Figure 1 is a view of a portion of a car, showing my improvements applied and the pedal-lever depressed with the clearing devices brought into position. Fig. 2 is a perspective view of the angular lever or rock-shaft removed from the car and carrying the brushes and scrapers, and Fig. 3 is a rear view of the scraping arm or point with my improved means for holding the same and allowing a yielding and lateral movement thereof.

Referring by letter to said drawings, A indicates a portion of a car, which may be of any ordinary or approved construction.

Arranged beneath the seats or at any other suitable points therein, and in advance of the front wheels, are hopper-shaped receptacles B, which in some cases may hold sand and at other times hold water, oil, or other liquids designed to lubricate the track or rails. In using liquids these receptacles should have a cover so as to prevent splashing and wasting of the liquid. Leading from the outside of this receptacle (there being one on each side of the car) is a flexible tube C, which is in most respects similar to the tubes used in the construction shown in my application above referred to.

D indicates an angular rock-shaft, which is provided with a weighted or gravitating arm *a*, and E indicates an angular lever, both of which are of the same construction as shown in said application referred to. The angular lever E is provided with the vertical branch *b*, and is journaled to the frame of the car at the angle *c*, and the rock-shaft D is also journaled to the car by staples *d* or other suitable devices, whereby it may be allowed to play freely in its bearings. The depending branches *e* of the angular rock-shaft carry the advanced clearing-points F, and secured to the rear sides of these arms or branches are the arms G, which hold the scrapers H.

The arms G, which are secured to the branches of the rock-shaft by bolts or other suitable fastening devices, are provided in their rear sides with a recess *f*, designed to receive the upper end of the scraper H, and



above this recess *f* is another recess, which is designed to seat a spring-arm *g*, although the spring may be secured to the arm by any suitable means. The scraper *H*, which should  
 5 have its lower end of a form corresponding to the face of the rail, is pivotally secured to the arm *G* by a pivot pin or stud *l*, and above this pivot-point said scraper is provided with a transversely-arranged curvilinear slot *k*,  
 10 which receives a stud *m*, fixed to the arm *G*. The head of the arm or scraper *H*, above the curvilinear slot *k*, is provided with a vertical slot *n* to receive the lower end of the yielding or spring arm *g*. By this construction it  
 15 will be seen that the scraper *H*, being pivoted to the arm *G*, the spring-arm *g* will normally hold the scraper in the position shown in Fig. 3 of the drawings when traveling on a straight track; but as the car reaches a curve  
 20 and the lower end of the scraper is engaging the rail the said scraper, having its fulcrum at the point *i*, will act upon the spring-arm *g* so that the same must give laterally and allow the lower end of the scraper to keep  
 25 contact with the rail in its entire passage around the curve.

While I have shown and described an arm with a recess carrying a spring and a scraper with a curvilinear slot, yet I do not wish to  
 30 be understood as confining myself to devices of such construction.

I attach importance to the employment of the lubricating device and the fact that the same is adapted to follow the curve and op-  
 35 erate simultaneously with the scraping and brushing devices.

The tube *C* is guided to the rail by passing through an eye *L*, preferably formed on the broom-head, and the broom *I* is interposed  
 40 between the tube and the scraper and secured to the latter, as shown. In order to give stiffness to the tube, it may have a thimble *M*, of wood or other suitable material, and in this non-yielding hollow piece I provide a  
 45 key or valve-seat to receive a key or valve *N*, having an angular arm *P*, which is connected with the car-body by a rod *R*, as shown. By this means it will be seen that as the rock-shaft is turned so as to let down its angular  
 50 branches the rod will be drawn on the key, so as to open the passage in the tube, and the tube, being connected with the scraping and brushing elements, will be brought into action so as to deposit water, oil, or other lu-  
 55 bricant from the receptacle upon the track as it has been freed from dirt by the scraper and brush.

While I prefer to use the rod *R* for opening the valve in the tube, yet such rod in  
 60 some cases may be dispensed with and means provided at the tube-guide for that purpose.

Directly beneath the car is a sliding valve *S*, which is connected with the rock-shaft arms by a connection *T*, and is used when  
 65 carrying sand in the receptacle. It is, however, obvious that this latter valve might be dispensed with, and in some cases the connec-

tion *T* might be detached from the branches of the rock-shaft when it is not desirable to use the valve *S*. 70

In operation, when the driver or attendant desires to scrape and brush the rails, he simply presses his foot upon the pedal-lever and raises the gravitating-arm. This movement will bring down the scraping-point and also  
 75 the brush, and in passing a curve if he desires to oil or lubricate the rails he simply increases his pressure on the lever, when the scraper, which is preferably of spring-steel, will give sufficiently to move the broom-head  
 80 to a point that will cause the rod *R* to open the valve in the tube, and thereby deposit water or oil upon the curve in the rails.

When the operator removes his foot from the lever, the weighted arm of the rock-shaft  
 85 will serve to return the parts to their normal position away from the rails and close the valve in the tube.

Having described my invention, what I claim is— 90

1. A laterally-yielding scraper, in combination with a flexible tube, substantially as specified.

2. A laterally-yielding scraper, in combination with a laterally-yielding brush and a laterally-yielding lubricant-conveyer, substantially as specified. 95

3. The combination, with a lubricant-holder, of a valved tube leading therefrom, a connection between the valve and a car, and a connection between the tube and a movable track-clearer, substantially as specified. 100

4. The combination, with a car, of a rock-shaft having depending branches and a weighted arm, a scraper secured to the  
 105 branches, a brush carried by said scraper, a valved tube leading from a lubricant-receptacle and movable with the brush and scraper, and a rod connecting the valve of the tube with the car-body, substantially as specified. 110

5. The combination, with a yielding and laterally-movable scraper, of a tube carrying a valve and connected with the scraper so as to move therewith, the scraper, and a connection adapted to open and close the valve of  
 115 the tube by the movements of the scraper, substantially as specified.

6. The combination, with a scraper or track-clearer, of a lubricant-receptacle, and a valved tube leading from the receptacle and connected with the scraper, substantially as specified. 120

7. The combination, with a scraper or track-clearer, of a lubricant-receptacle, a valved flexible tube leading from the receptacle, and  
 125 a hinged rod connecting the valve with the car-body, whereby when the tube is moved the valve will be opened and closed, substantially as specified.

8. The combination, with a rock-shaft having depending angular branches and a weighted or gravitating arm, of a pedal-lever connected with said arm, track-clearing devices carried by said arm, a lubricant-receptacle, a 130



flexible tube leading from the receptacle and carrying a valve, and a rod connecting the valve with the body of a car, substantially as specified.

5 9. The combination, with a scraper having its upper end notched and provided with a transverse curvilinear slot, of an arm carrying, said scraper and a spring-arm having one end secured to the arm for sustaining the  
10 scraper and its opposite end seated in the notch at the head of the scraper, substantially as specified.

10. The combination of the arm G, having the recess *f*, the scraper H, having the slot *k*, the stop *m*, and the spring *g*, secured at one  
15 end to the arm G and its opposite end engaging the pivoted scraper, substantially as specified.

11. A track-clearing device consisting of  
20 a rock-shaft having depending angular branches and a weighted arm, and a pedal-lever connected with said arm, substantially as specified.

12. A track-clearing device consisting of  
25 a rock-shaft having depending angular branches and a weighted arm, and a pedal-lever pivotally connected to said arm and the depending branches carrying abrading elements, substantially as specified.

30 13. The combination, with a car, of a rock-shaft journaled beneath the same and having its ends terminating in downwardly and rearwardly depending branches and a forwardly-extending weighted arm, and a pedal-lever  
35 connected with said arm and passing up through the car-body, substantially as specified.

14. The combination, with a car, of a rock-shaft journaled beneath the same and having  
40 its ends terminating in downwardly and rearwardly depending branches and a forwardly-extending weighted arm, a pedal-lever pivotally connected with said arm, and a curved  
45 advancing point secured to the lower end of the depending branches of the rock-shaft, substantially as specified.

15. The combination, with a car, of a rock-shaft journaled beneath the same and having  
50 its ends terminating in downwardly and rearwardly depending branches and a forwardly-extending weighted arm, a pedal-lever pivotally connected with said arm, a curved  
55 advancing point secured to the lower end of the depending branches of the rock-shaft, and a scraper following said point and secured to the arms, substantially as specified.

16. The combination, with a car, of a rock-shaft journaled beneath the same and having  
60 its ends terminating in downwardly and rearwardly depending branches and a forwardly-extending gravitating arm, a pedal-lever pivotally connected with said arm, a

curved advancing point secured to the lower end of the depending branches of the rock-shaft, a scraper following said point and se- 65  
cured to the arms, and a brush following the scraper and also secured to the arms, substantially as specified.

17. A track-clearing device consisting of a rock-shaft having angular depending 70  
branches carrying abrading elements and, a forwardly-extending gravitating arm, and an angular pedal-lever pivotally connected with said arm and having a vertical toe-branch, substantially as specified. 75

18. The combination, with a car, of a sand-receptacle having a discharge-aperture in its bottom, a reciprocating valve adapted to open and close said receptacle, and a flexible tube leading from the discharge-aperture and 80  
passing through a guide at the rear of the brush, substantially as specified.

19. In an apparatus substantially as described, the combination, with the rock-shaft, of a sand-receptacle having a discharge-aper- 85  
ture, a valve closing said aperture, and a rope or chain connecting the rock-shaft with the valve, substantially as specified.

20. The combination, with a car, of a track-clearing device having a rock-shaft for one 90  
of its organized elements, a sand-receptacle having a discharge-aperture, and a valve closing the same connected with the rock-shaft, substantially as specified.

21. The combination, with a track-clearing 95  
device, of a rock-shaft having its ends terminating in depending angular branches, of a brush secured to the said branches and having its head formed with a guide-eye, a sand-receptacle, and a tube leading from the dis- 100  
charge thereof and passing through the eye in the broom-head, substantially as specified.

22. The combination, with a car, of a sand-receptacle having a discharge-aperture in its bottom, a cross bar or block arranged beneath 105  
the same and having an aperture coinciding with the aperture of the hopper, said block having its under side beveled, and a reciprocating valve seated on the beveled side of the block, connected with a movable part of the 110  
clearing mechanism, substantially as specified.

23. The combination, with a car, of the rock-shaft carrying the track-clearing devices, a sand-receptacle having a bevel around its dis- 115  
charge-aperture, and a reciprocating valve seated on said bevel and connected with the rock-shaft, substantially as specified.

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

THEODORE J. KING.

Witnesses:

T. E. TURPIN,  
C. H. RAEDER.