

E. L. LARSON.
 TRACK SANDING DEVICE.
 APPLICATION FILED APR. 29, 1909.

939,718.

Patented Nov. 9, 1909.
 2 SHEETS—SHEET 1.

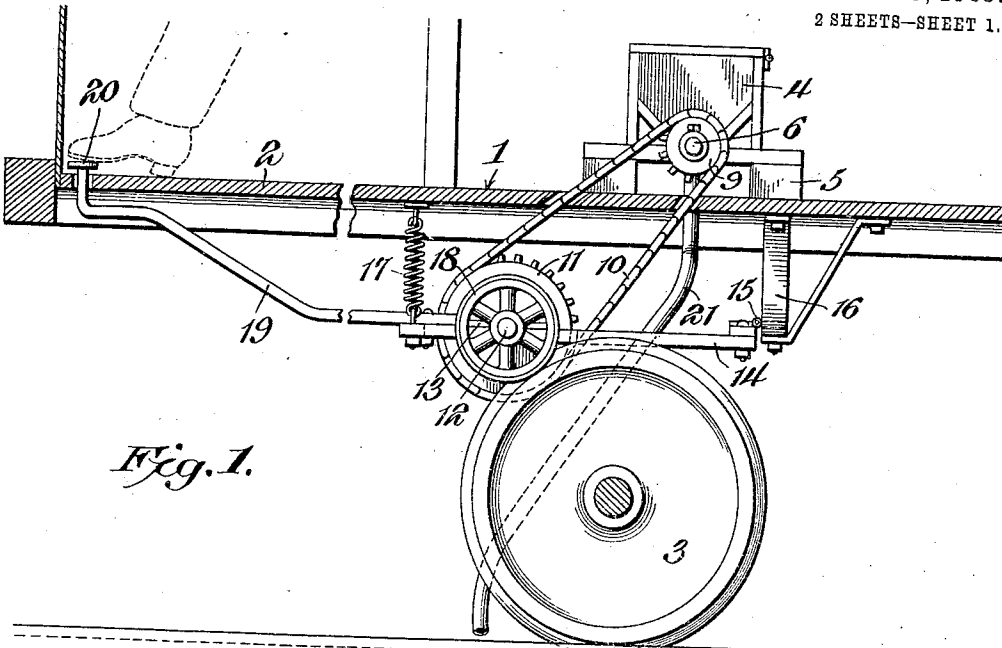


Fig. 1.

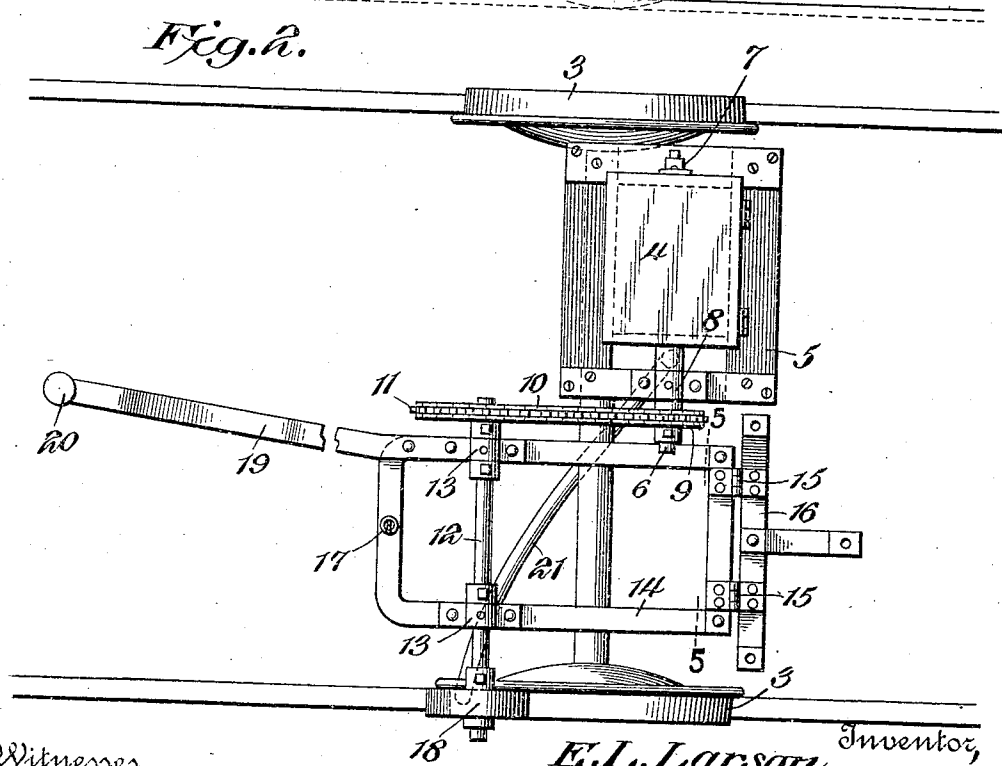


Fig. 2.

Witnesses
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Fig. 3.

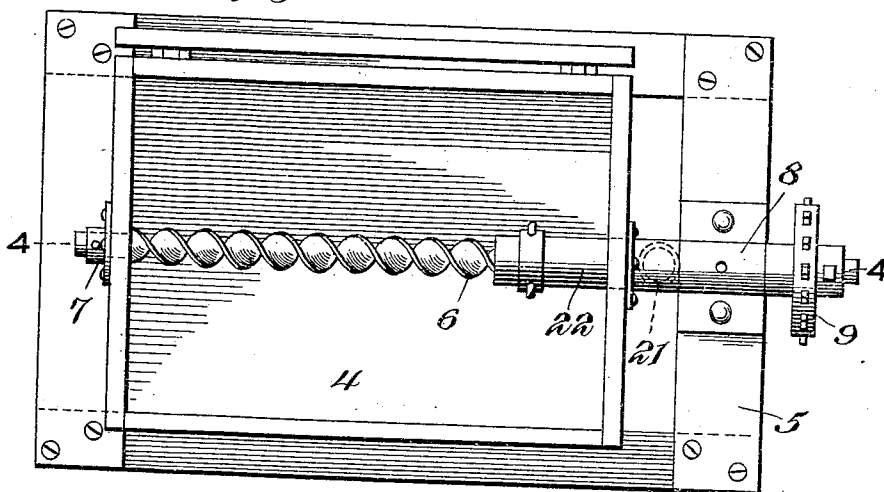


Fig. 4.

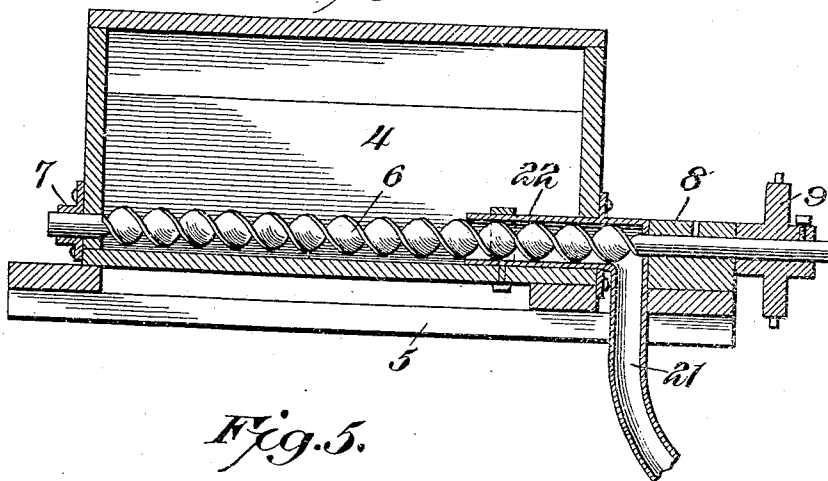
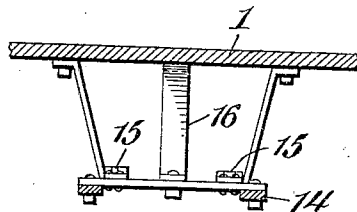


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

EDWIN L. LARSON, OF DE KALB, ILLINOIS.

TRACK-SANDING DEVICE.

939,718.

Specification of Letters Patent.

Patented Nov. 9, 1909.

Application filed April 29, 1909. Serial No. 492,919.

To all whom it may concern:

Be it known that I, EDWIN L. LARSON, a citizen of the United States, residing at De Kalb, in the county of Dekalb and State of Illinois, have invented a new and useful Track-Sanding Device, of which the following is a specification.

This invention relates to a device for sanding tracks to prevent slipping of the wheels of vehicles traveling on such tracks, and the invention has for one of its objects to improve and simplify the construction and operation of devices of this character so as to be reliable and efficient in use, readily manipulated, and adapted as an attachment for cars already in use.

With this and other objects in view, the invention comprises the various novel features of construction and arrangement of parts which will be more fully described hereinafter and set forth with particularity in the claims appended hereto.

In the accompanying drawings, which illustrate one embodiment of the invention, Figure 1 is a sectional view of a portion of a car showing the invention applied thereto. Fig. 2 is a plan view of the track sanding device. Fig. 3 is an enlarged plan view of the sand-feeding mechanism and hopper. Fig. 4 is a vertical longitudinal sectional view on line 4—4, Fig. 3. Fig. 5 is a vertical sectional view on line 5—5, Fig. 2.

Similar reference characters are employed to designate corresponding parts throughout the views.

In the accompanying drawing, 1 designates the floor of a street car or other vehicle. At one end thereof is the usual platform 2 for the motorman, the car body being mounted on ordinary trucks having track wheels 3.

The sanding device consists of a box-like hopper 4 arranged in any suitable part of the car, as for instance, under one of the seats and supported on a base frame 5, the bottom of the hopper being inclined from the sides downwardly toward the center to form a trough-like structure. In the bottom of the hopper and extending longitudinally thereof is a feed screw 6 mounted at its ends in bearings 7 and 8. This feed screw extends out of the bearing 8 and is equipped with a sprocket 9 over which passes a sprocket chain 10 meshing with a sprocket wheel 11 on a floating rotary shaft 12. As shown in Fig. 2, the shaft 12 is mounted in bearings 13 on a horizontally-disposed frame 14 which has

one end attached by hinges 15 to a depending bracket 16 on the floor of the car, while the opposite end is suspended by a spring 17. On the opposite end of the shaft from the sprocket wheel 11 is a small wheel 18 that is adapted to be thrown into contact or frictional engagement with one of the car wheels 3, so that the shaft can be driven thereby. Normally, the pulley 18 is held out of engagement with the wheel 3 by the spring 17, and is moved into engagement with the wheel by any suitable means under the control of the motorman. For this purpose, the frame 14 is provided with a forwardly-extending arm 19 having an upturned extremity passing through the platform floor to form a push-button 20 which the motorman can engage by his foot to depress the swinging frame and thus transmit power from one of the car wheels to the feed screw. Leading from the feed screw is a sand-conducting conduit 21 having its lower end terminating in front of the car wheel 3 and directly over the track to deposit sand thereon. In some instances, the sand-conducting pipe is formed with two branches leading to both rails. At the receiving end of the sand-conducting pipe 21 and disposed within the hopper, is a hood 22 in the form of a cylindrical casing surrounding the screw 16 and extending a suitable distance into the hopper. This hood serves to prevent the sand from being jolted out of the hopper through the port through which the screw passes, thus rendering it impossible for sand to pass out except when the screw is operated.

In practice, the hopper is filled with sand which fills in around the screw, since the latter is located in the trough of the bottom thereof. When it is desired to sand the track, the motorman depresses the push button to thereby throw the pulley 18 into engagement with the car wheel. The shaft 12 is thus rotated and transmits power to the feed screw through the sprocket and chain mechanism. As soon as sufficient sand has been delivered, the motorman releases his foot so that the device can be automatically thrown out of operation.

From the foregoing description, taken in connection with the accompanying drawings, the advantages of the construction and of the method of operation will be readily apparent to those skilled in the art to which the invention appertains, and while I have described the principle of operation of the invention,

together with the device which I now consider to be the best embodiment thereof, I desire to have it understood that the device shown is merely illustrative, and that such changes may be made when desired as are within the scope of the claims appended hereto.

Having thus described the invention, what I claim as new, and desire to secure by Letters Patent, is:—

1. In a track sanding device, the combination of a car, a hopper carried thereby, a feed screw in the hopper, a floating shaft disposed exterior to the hopper, means for mounting the shaft on the car, a sprocket and chain device between the screw and shaft, a pulley on the shaft, means for moving the pulley into engagement with the wheel of the car, means for normally holding the pulley out of engagement with the wheel, and a sand-conducting conduit leading from the screw to the track.

2. In a track sanding device, the combination of a car body, a hopper mounted thereon, a feed screw in the hopper, a swinging frame mounted on the car body to move in a vertical plane, a shaft mounted on the frame, a driving connection between the shaft and screw, a pulley on the shaft arranged to engage one of the car wheels, a spring connected with the frame and car body to normally hold the pulley away from the car wheel, means for moving the frame against the tension of the spring to engage the pulley with the wheel, and a sand-conducting conduit leading from the screw to the track.

3. In a track sanding device, the combination of a car body, a hopper mounted thereon, a rotary feed element disposed in the hopper, a conduit arranged to receive sand from the element and deliver it to the

track rail, a frame mounted under the floor of the car body to swing on a horizontal axis, a contractile spring secured to the car body and to the frame for holding the free end of the latter raised, a pulley mounted on and movable with the frame to engage with a wheel of the car, a sprocket and chain connection between the pulley and sand-feeding element for rotating the latter and permitting the frame to be raised or lowered, and an operating device rigidly connected with and carried by the front end of the frame for moving the pulley into engagement with the car wheel against the tension of the said spring.

4. In a track sanding device, the combination of a car, a sand-containing hopper thereon, a feed-screw mounted in the hopper, a shaft disposed parallel with the screw, a sprocket and chain device between the shaft and screw, a swinging frame, a bracket on the car, a hinged connection between the frame and bracket, bearings on the frame for said shaft, a pulley on the shaft for engaging the periphery of one of the car wheels, a spring connected with the car and frame for holding the latter raised with the pulley out of engagement with the said wheel, an arm connected with the frame, means connected with the arm for depressing the frame against the tension of the said spring to operatively connect the pulley with the said wheel, and a sand-conducting conduit between the screw and track to be sanded.

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

EDWIN L. LARSON.

Witnesses:

EDWARD JOHNSON,
ESTHER L. JOHNSON.