W. JENKINS.

TRACK SANDER.

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1,003,608. Patented Sept. 19, 1911.

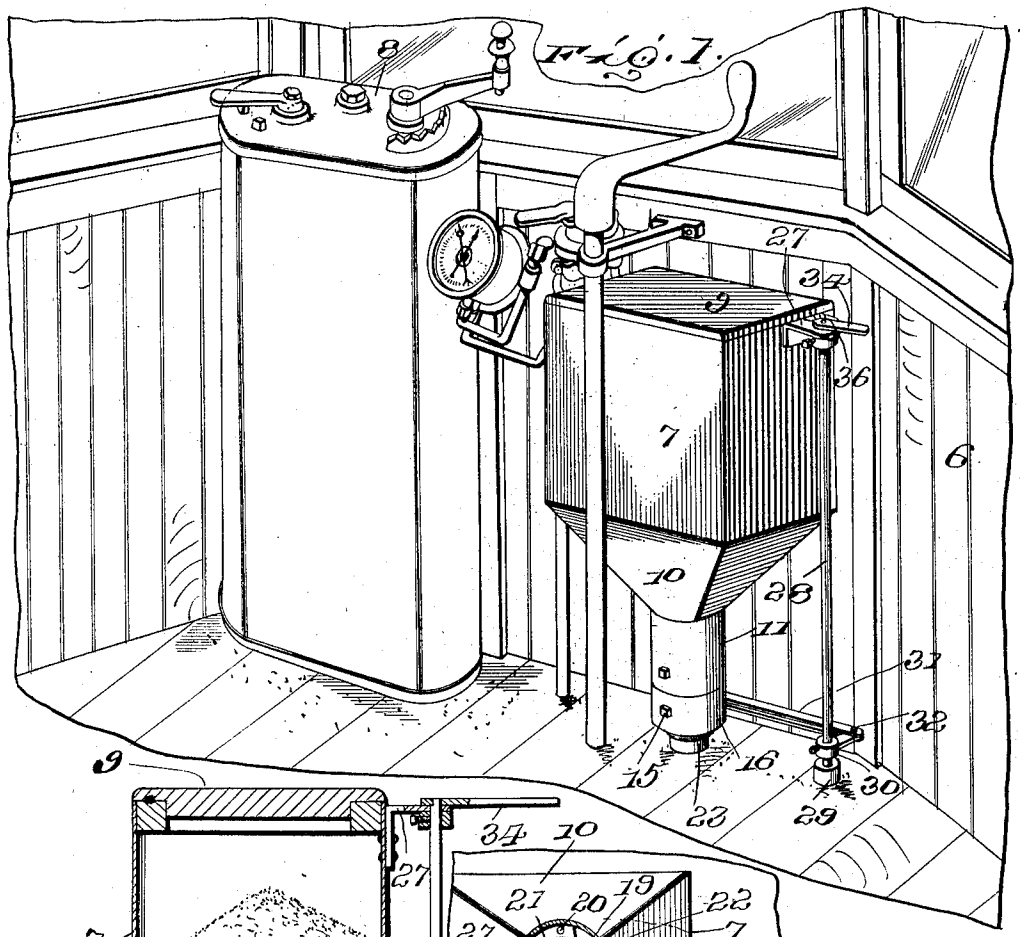

Fig. 1.

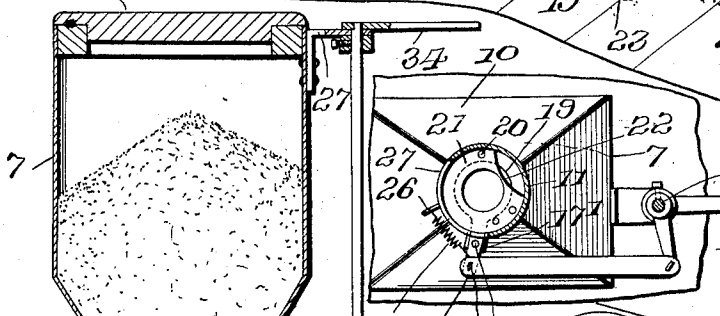

Fig. 3.

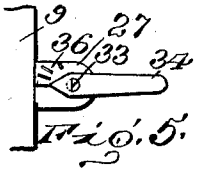

Fig. 5.

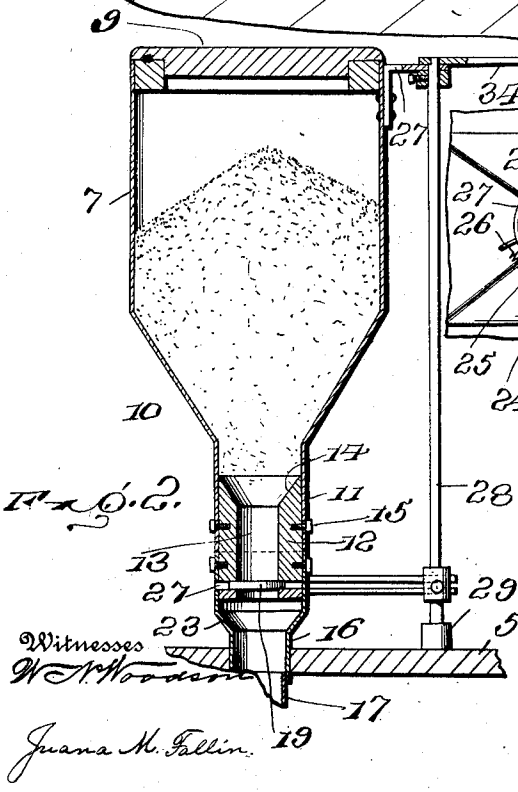

Fig. 2.

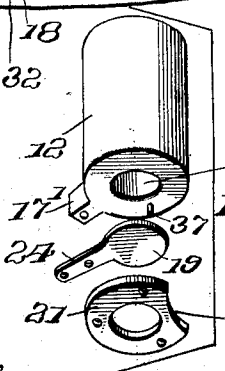

Fig. 4.

Witnesses

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TRACK-SANDER.

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To all whom it may concern:

Be it known that I, WILLIAM JENKINS, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Track-Sanders, of which the following is a specification.

This invention relates to track sanders and has for its object the provision of a comparatively simple and thoroughly efficient device of this character, capable of being readily attached to the dash board or other portion of a street car, and which may be conveniently operated by the motorman to deposit sand on the rails, when necessary, to prevent slipping of the vehicle wheels.

A further object of the invention is to provide a track sander including a hopper having a valve pivotally mounted in the discharge spout thereof and movable laterally to open or partially open position so as to control the volume of sand discharged from said hopper.

A further object is to provide a cut off valve, the seat of which is formed with a peripheral recess to permit the escape of sand should the latter be forced within the seat by the action of the valve, thereby to prevent injury to said valve and insure the proper operation thereof at all times.

A still further object of the invention is generally to improve this class of devices so as to increase their utility, durability and efficiency, as well as to reduce the cost of manufacture.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

For a full understanding of the invention and the merits thereof, reference is to be had to the following description and accompanying drawing, in which:

Figure 1 is a perspective view of a track sander constructed in accordance with my invention, showing the same in position on the front platform of a street car; Fig. 2 is a vertical sectional view of the same; Fig. 3 is a transverse sectional view, looking at the bottom of the sand receiving hopper; Fig. 4 is a detail perspective view, showing the connecting plug, valve and valve seat detached; Fig. 5 is a top plan view, showing the construction of the operating lever and graduations on the supporting bracket thereof.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawing by the same reference characters.

The improved track sanding device forming the subject matter of the present invention may be used in connection with street cars, interurban cars and other vehicles and by way of illustration is shown applied to a street car of the ordinary construction in which 5 designates the front platform and 6 the dash board.

The device comprises a hopper 7, preferably rectangular in shape, as shown, and secured to the dash board 6 of the car on one side of the controller 8. The top of the hopper 7 is provided with a removable lid or closure 9, while the bottom thereof is inclined downwardly at 10 and terminates in a depending discharge spout 11, preferably formed in two sections, as shown. Arranged within the discharge spout 11, is a connecting plug 12 having a longitudinal bore 13, through which the sand from the hopper 7 is discharged, the mouth of the bore 13 being preferably inclined or beveled at 14 so as to prevent clogging of the sand and thus insure a uniform flow of the material through the discharge spout to the rails. The sections of the discharge spout 11 are rigidly secured to the connecting plug 12 by screws or similar fastening devices 15, the lower section 16 of the spout being extended through a suitable opening in the platform 5 of the car for attachment to a conductor 17 leading to the rails.

Secured to or formed integral with the lower end of the tubular connecting member or plug 12, is a laterally extending lug 17′ on which is pivotally mounted at 18, a cut off valve 19 by means of which the volume of sand discharged from the hopper may be controlled at will. Spaced from the lower end of the tubular member or plug 12 and secured thereto by fastening devices 20, is a valve seat 21 having a central opening to permit the discharge of the

sand, said valve seat, by contact with the valve, serving to assist in sustaining the weight of the sand within the hopper and thus prevent buckling or bending of the valve.

The valve seat 21 is provided with a peripheral recess 22 so as to permit the escape of any sand which may be forced between the member 21 and lower face of the plug, thereby to prevent injury to the valve and insure the proper operation thereof at all times.

It will here be noted that the wall of the lower spout section 16 below the valve seat 21, is inclined downwardly at 23 so that the sand discharged from the recess 22 will fall upon the inclined wall 23 and thus be directed downwardly through the conductor 17 to the rails.

The valve 19 is extended longitudinally beyond the pivot pin 18 to form an operating handle 24 to which is connected one end of a coil spring 25, the other end of said spring being secured to a loop or eye 26 extending laterally from the lower section of the discharge spout 16, as shown, there being a slot 27 formed in the section 16 to permit the valve to be moved to open and closed positions.

Extending laterally from one side of the hopper 7, near the upper end thereof, is a bracket 27 in which is journaled the upper end of a vertical shaft 28, the lower end of said shaft being journaled in a bearing 29 secured to the platform 5, as shown. Mounted on the shaft 28, near the bearing 29, is a collar 30 having a laterally extending arm, on which are pivotally mounted spaced connecting links 31, the latter being in turn pivotally connected at 32 with the lever or extension on the valve 19 so that when the shaft 28 is rotated, motion will be transmitted through the medium of the links 31, thereby to open the valve and permit the discharge of the contents of the hopper, the spring 25 serving to normally hold the valve in closed position. The upper end of the shaft 28 is provided with a flat face 33 which extends through a correspondingly shaped opening formed in an operating lever or handle 34, one end of said handle being provided with a pointed terminal 35 which registers with a series of graduations 36 formed on the bracket 27 so that the operator, by merely glancing at the graduations 36 may readily determine the position of the valve and consequently the amount of sand being discharged from the spout to the rails.

It will be understood that the tubular member 12 not only serves to connect the upper and lower sections of the discharge spout, but also serves to reinforce said spout and direct the sand into the conductor 17 and thence to the rails.

The lower section 16 is preferably provided with a recess to accommodate the lug 17', the parts being so arranged that they may be quickly taken apart to facilitate cleaning when necessary.

Thus it will be seen that by rotating the handle 34, the valve may be moved to open or partially open position so as to allow the sand to pass through the conductor to the rails to prevent slipping of the vehicle wheels, when necessary, the spring 25 serving to automatically close the valve when the handle is released. A pin 37 is preferably formed on the bottom of the tubular member 12 for limiting the closing movement of the valve.

While the device is shown attached to the dash board of a car, it will of course be understood that the hopper and its associated parts may be arranged within the body of the car beneath the seats thereof or at any other portion of the car, without departing from the spirit of the invention. It will also be understood that the hoppers may be made in different sizes and shapes, and that if desired, two or more conductors may be connected with the lower section of the discharge spout so as to permit sanding of both rails, if found desirable or necessary.

Having thus described the invention, what is claimed as new is:

1. A track sander including a hopper having a discharge spout, the lower walls of which are inclined downwardly, a tubular member disposed within the discharge spout, a valve seat spaced from the lower end of the tubular member and provided with a peripheral recess to permit the discharge of sand from said valve seat, a valve operating between the tubular member and valve seat, and actuating shaft, a connection between the valve and shaft for moving the valve to open position, and a spring operatively connected with the valve for normally closing the latter.

2. A track sander including a hopper having a removable cover and provided with an inclined bottom terminating in a sectional discharge spout, a tubular member forming a connection between the sections of the discharge spout and having its upper end inclined downwardly, the lower section of said discharge spout being provided with a transverse slot and having its side walls inclined downwardly to form a contracted mouth, said tubular member being provided with a laterally extending lug, a valve seat spaced from the lower end of the tubular member, a valve operating between said tubular member and seat and provided with an extension pivotally mounted on the lug, the periphery of the valve seat being cut-away to permit the escape of sand from said seat when the valve is in closed position, a pin depending from the bottom of the tubular

member and engaging the valve for limiting the closing movement thereof, a spring forming a connection between the extension of the valve and discharge spout for normally holding the valve in closed position, a vertically disposed actuating shaft, an arm secured to said shaft, and spaced links pivotally connected with the upper and lower faces of the arm and valve extension for moving the valve to open position when the actuating shaft is rotated.

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

WILLIAM JENKINS. [L. S.]

Witnesses:
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SAMUEL N. ACKER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."