C. W. LANGRIDGE
TRACK SANDING DEVICE FOR TRAM CARS.
APPLICATION FILED DEC. 10, 1902.

Inventor

By his Attorneys

Witnesses

THE WASHINGTON BURR-NIXON, WASHINGTON D.C.
To all whom it may concern:

Be it known that I, CHARLES WILLIAM LANGRIDGE, a citizen of the United States, and a resident of Pueblo, county of Pueblo, and State of Colorado, have invented certain new and useful Improvements in Track-Sanding Devices for Tram-Cars, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar letters of reference indicate corresponding parts.

The subject of the present invention is a track-sanding device for tram-cars, and has for its more prominent objects a comparatively simple as well as highly-efficient device of the character stated which can be readily applied to various existing constructions of tram-cars and be operated to effectively deliver sand to both tracks with but little exertion on the part of the attendant on the car platform.

With the above and other purposes in view I have devised an improved construction comprising generally a pair of sand-hoppers provided with appropriate discharge nozzles or spouts and suspended one at each side beneath the car, so that the nozzles will be immediately over the rails, a transverse plate or board being interposed between the hoppers and bolster and rails and with them, attached by suspending-bolts common to both, to the platform, the plate serving as a cover for both hoppers, being provided with appropriate filling-openings, besides apertures for the passage of the hopper-valve-operating means.

This latter, which is of peculiarly novel character, with the other important features adverted to, is explained at length in the subsequent detailed description.

In the accompanying drawings, forming part of this specification, Figure 1 is an under perspective view of sufficient of the forward portion of a tram-car for the exemplification of my invention. Fig. 2 is a transverse sectional view taken in the plane of the hoppers, the board or plate above the same being omitted.

Beneath the car-platform A are the bolster B B and intermediate end sills C C. Transversely beneath and in bearing contact with the bolster and rails at the forward portion of the platform is a plate E. Immediately under and in bearing contact with such plate are the pair of sand-hoppers F F, one at each side, located so that its discharge nozzle or chute F F will depend immediately above one of the track-rails. The hoppers have flanges f at their upper edges, so that the same bolts f f will secure both hoppers and the plate immediately together and the latter in its bearing contact with the under sides of the bolster and sills. At about the junction of each nozzle with its hopper is a horizontal partition g, the upwardly-contracting opening in which affords communication between the hopper-chamber F and the nozzle-passage.

A peculiarly-shaped transversely-placed rod embodies an extended central portion I, located approximately beneath that portion of the plate E which is below the sills C C. The portion I, next merging into short vertical bends I, which extend loosely up through openings therefor in the plate, next presents the shorter horizontal lengths I, which in turn are succeeded by members I, each vertically depending through an opening i in the plate E, centered above the hopper at that side, each member extending down its particular hopper and terminating in a plug-valve i, operating with and designed to control communication through the opening in the partition g of its hopper.

Between a short horizontal bridge j, spanning the under side of each opening i and through which the partition member I of that hopper is adapted to play, is an expanded coiled spring J, bearing between the bridge and the shoulder j of the rod at the intersection of each length I and companion member. As will be readily comprehended, each spring normally acts to hold the contiguous plug-valve snugly to its seat to cut off communication between the hopper and its spout. An opening e in the plate E, adjacent to each opening i, permits a body of sand to be introduced within the respective hoppers.

A vertical branch I of the rod extends upwardly from the portion I thereof and passes both through the plate and platform and for a short distance above the latter, where it carries a foot-rest I. The operation of the device will be obvious. The plug-valves of both hoppers are normally held to their seats through the agency of the
expanding springs J. When it is desired to deposit sand upon the rails, the attendant exerts foot-pressure upon the rest and the entire transversely-disposed rod is depressed, so that the valves of both hoppers will be simultaneously unsheated to permit the passage and descent of sand onto the rails. The quantity of sand deposited will of course depend either upon the time interval during which the valves are unsheated or the extent of their unsheating, or both, according to conditions.

The peculiarly shaped and disposed rod, in connection with the springs J J and the valves, presents an exceedingly efficient means for controlling the simultaneous sanding of both track-rails, being by fact of its lightness readily operated and the sand distribution easily controlled. These several bends of the rod cooperate with continuously-fixed parts to limit the vertical movement of the rod without subjecting the valves to any undue play. Furthermore, the lightness and simplicity of the operating mechanism presented by said rod and its springs render the application of the invention to existing constructions of tram-cars a matter comparatively easy.

By reference to Fig. 1 it will be observed that the sills C C have forward underhangs C C, contributing to support the plate E and other parts in position.

In addition to the other functions stated the plate or board E tends to keep the sand dry and also prevent it from being jumped out of the hoppers.

I do not wish to be understood as limiting myself to the particular construction and arrangement of parts shown and described, but reserve the right to such modifications and changes as may be fairly within the spirit of my invention.

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

1. In a track-sanding device, the combination with a car-platform, of sand-hoppers located beneath and at each side thereof and provided with nozzles and valve-openings, of a transversely-disposed rod, normally spring-elevated, and bent to limit its vertical movement, valves carried by said rod controlling said openings, and a branch extending above the platform and provided with a foot-rest.

2. In a track-sanding device, the combination with a car-platform, of a sand-hopper located beneath and at each side thereof and provided with nozzles and valve-openings, of a transverse plate above the hoppers and secured therewith in position, and a transversely-disposed rod, normally spring-elevated, bent to present the central portion I, beneath the plate, vertical bends, and members depending within the hoppers and carrying plug-valves, together with a branch extending above the platform and carrying a foot-rest.

3. In a track-sanding device, the combination with a car-platform, of conical sand-hoppers, located beneath and at each side thereof, each hopper comprising a conical body with upper flanges and lower spout, a perforated partition interiorly at the junction of the body and spout, a board or plate above both hoppers, bolts passing both through the hopper-flanges and plate and secured to a fixed part, and a transversely-disposed rod normally spring-elevated, and bent to limit its vertical movement, valves carried by said rod controlling the partition-openings, and a suitable foot connection with the rod.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 9th day of September, 1902.

CHARLES WILLIAM LANGRIDGE.

Witnesses:
MAURICE O'DONNELL,
JAMES M. O'DONNELL.