

(No Model.)

F. H. STUART.
SAND BOX.

No. 587,462.

Patented Aug. 3, 1897.

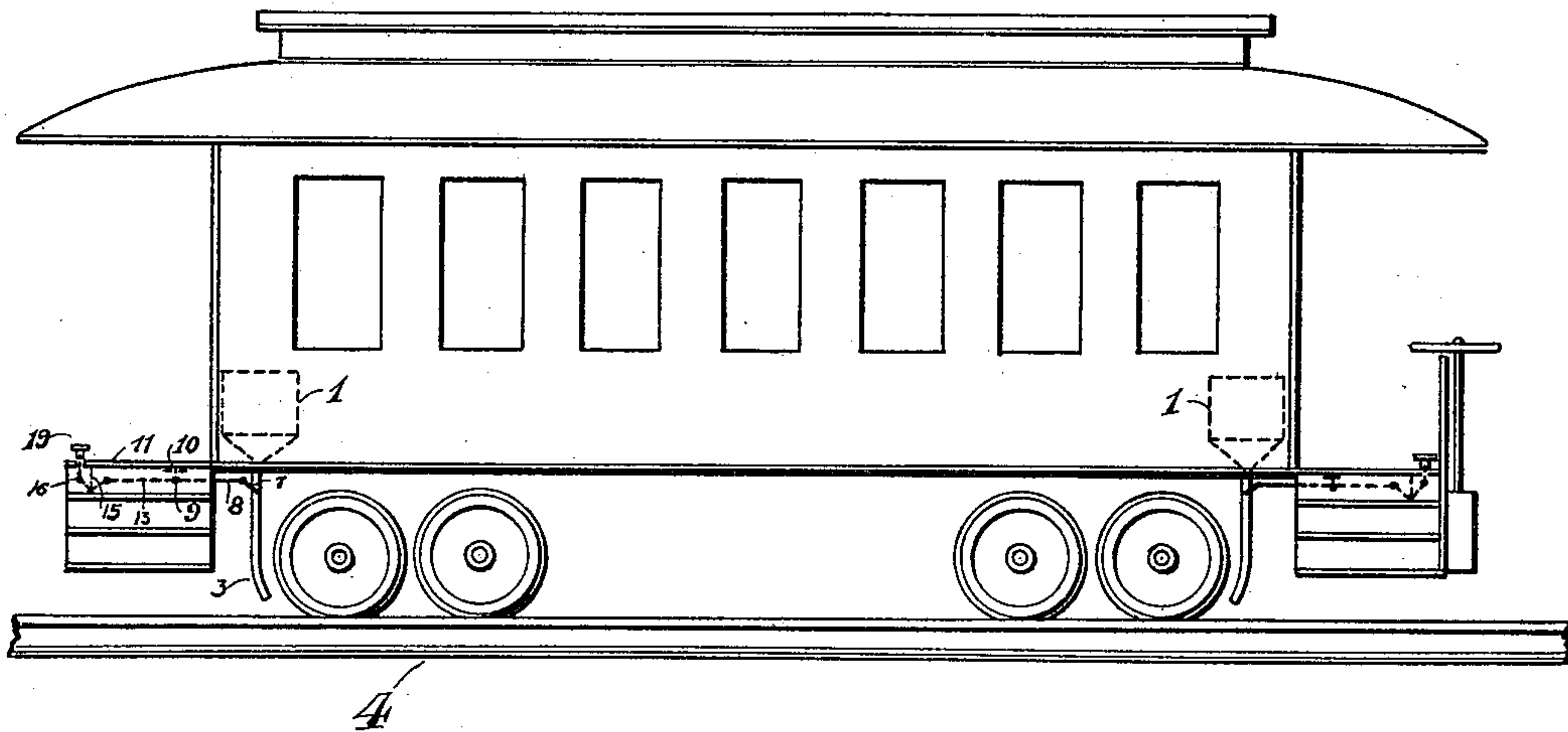


Fig. 1

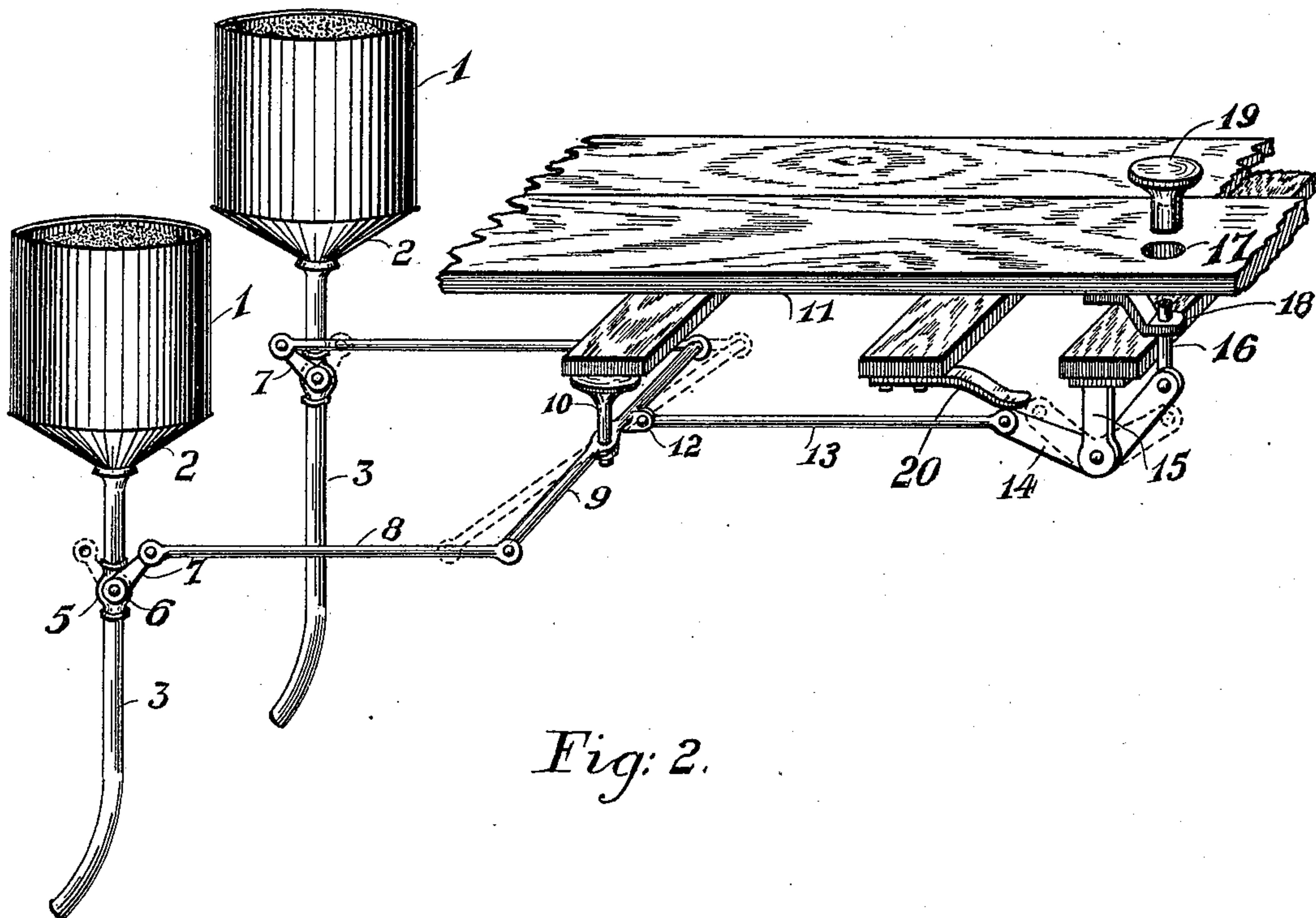


Fig. 2.

WITNESSES

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UNITED STATES PATENT OFFICE.

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SAND-BOX.

SPECIFICATION forming part of Letters Patent No. 587,462, dated August 3, 1897.

Application filed November 23, 1896. Serial No. 613,221. (No model.)

To all whom it may concern:

Be it known that I, FRANK H. STUART, a subject of the Queen of Great Britain, residing at St. Johnsbury, in the county of Caledonia and State of Vermont, have invented certain new and useful Improvements in Sand-Boxes; and I do hereby 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 apparatus for sanding car-tracks, and is particularly designed for use upon street-cars, the object being to provide a simple, inexpensive, and efficient device by means of which the motorman may by a simple pressure of his foot distribute sand simultaneously upon both rails in advance of the traction-wheels, the device being extremely compact in its arrangement and being for the greater part concealed from view.

To this end the invention consists in certain novel features and details of construction and arrangement of parts, as hereinafter fully described, illustrated in the drawings, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a car, showing the improved apparatus in full and dotted lines as applied thereto. Fig. 2 is an enlarged sectional perspective view showing the several parts of the apparatus in their operative relation.

Similar numerals designate corresponding parts in the figures of the drawings.

The improved apparatus contemplated in this invention comprises, essentially, a pair of sand-boxes 1, which may be conveniently arranged within the car-body and above the floor thereof, as shown in Fig. 1. These boxes are arranged upon opposite sides of the car-body and preferably at points immediately over the rails. The said boxes are also provided with inverted conical bottoms 2, tapering to a common central point, at which they communicate with downwardly-extending tubular conductors or pipes 3, the lower ends of which may, if desired, be curved and move immediately over the rails 4 just in advance of the traction-wheels, as shown in Fig. 1. Intermediate the ends of each pipe 3 is an enlarged casing 5, in which is arranged a valve

6, the stem of which extends through the casing and is provided with a crank 7.

The cranks 7 are arranged to incline one forward and the other backward, as clearly shown in Fig. 2, and from said cranks valve-rods 8 extend toward the end of the car, connecting pivotally at their ends with the opposite ends of a centrally or intermediately pivoted lever 9, fulcrumed on a depending post 10, secured to the under side of the car-platform 11. At one side of its center the lever 9 is provided with a laterally-projecting ear 12, to which is pivotally connected one end of a connecting-rod 13, the opposite end of which connects pivotally with one arm of the elbow-lever 14, fulcrumed in a depending bracket 15, secured beneath the car-platform. To the opposite end of said lever is pivotally connected a plunger 16, which extends upward through an opening 17 in the car-platform and also through the bearing bracket or guide 18, secured beneath said platform. Upon the upper end of the plunger 16 is removably fitted a presser-foot 19, which is adapted to be depressed by the motorman's foot for throwing the mechanism hereinbefore described into operation.

20 designates a leaf-spring secured to the under side of the platform at one end and bearing at its free end against the elbow-lever 14 for returning the parts to their normal position after they have been moved by the pressure of the motorman's foot.

In operation the motorman bears upon the presser-foot 19, thus moving the plunger 16 downward and rocking the elbow-lever 14 on its fulcrum. This pulls upon the connecting-rod 13 and rocks the lever 9 upon its fulcrum, one end of said lever moving forward and the other end backward. This operates the valve-rods 8 and moves the crank 7 of one valve rearward, while at the same time moving the crank of the opposing valve forward. By reason of the particular arrangement of the valves this movement serves to open both of the valves, thus allowing the sand from the boxes 1 to pass downward through the pipes 3 and be deposited upon the heads of the rails as the car moves thereover. The construction above described is very simple, compact, and convenient, is not liable to get out of order, and does not interfere with the appearance of the

car, it being practically concealed within the car and under the platform thereof. In dry weather, when the device is not needed, the presser-foot 19 may be removed from the
5 plunger 16, thus leaving no obstruction on the car-platform.

It will be apparent that various changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of
10 the advantages of the invention.

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

1. The combination with spaced sand-boxes,
15 and pipes for conducting sand therefrom to the rails, of valves for opening and closing said pipes, a lever fulcrumed intermediate its ends, connections between the ends of said lever and cranks on the valves, a presser-foot,
20 and connection between said presser-foot and lever, substantially as described.

2. The combination with spaced sand-boxes, and pipes for conducting sand therefrom to the rails, of valves for opening and closing
25 said pipes, having reversely-disposed operating-cranks, a lever fulcrumed intermediate its ends, connections between the ends of said lever and said cranks, a presser-foot adapted

to be actuated by the foot of the operator, and connections between said presser-foot 30 and lever, all arranged substantially as and for the purpose described.

3. The combination with a car, of sand-boxes arranged within the same and provided with
35 pipes leading through the bottom of the car to points immediately over the rails and in advance of the traction-wheels, valves for opening and closing said pipes, a lever fulcrumed intermediate its ends and operatively connected to said valves for simultaneously
40 operating them, an elbow-lever fulcrumed beneath the car-platform, a connection between said elbow-lever and valve-operating lever, a depressible plunger connected to said elbow-lever and extending through the car-platform,
45 and a spring bearing against said elbow-lever for returning the same to its normal position and closing the valves, all arranged for joint operation, substantially as described.

In testimony whereof I have signed this
50 specification in the presence of two subscribing witnesses.

FRANK H. STUART.

Witnesses:

W. H. SARGENT,
E. A. STUART.