

(No Model.)

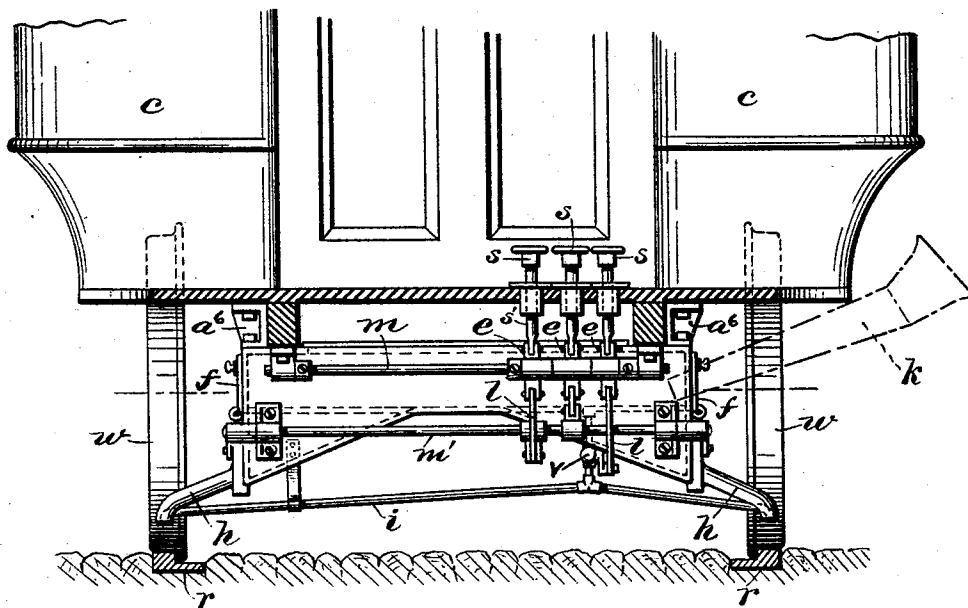
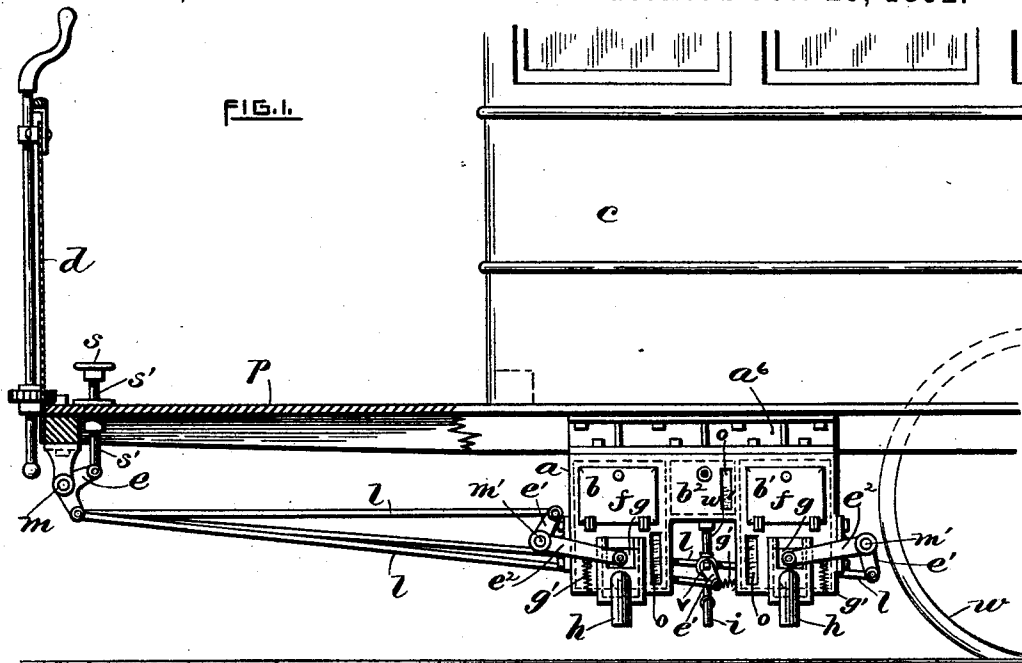
2 Sheets—Sheet 1.

A. A. WHIPPLE.

APPARATUS FOR SANDING RAILROAD TRACKS.

No. 484,926.

Patented Oct. 25, 1892.



WITNESSES.

FIG. 2.

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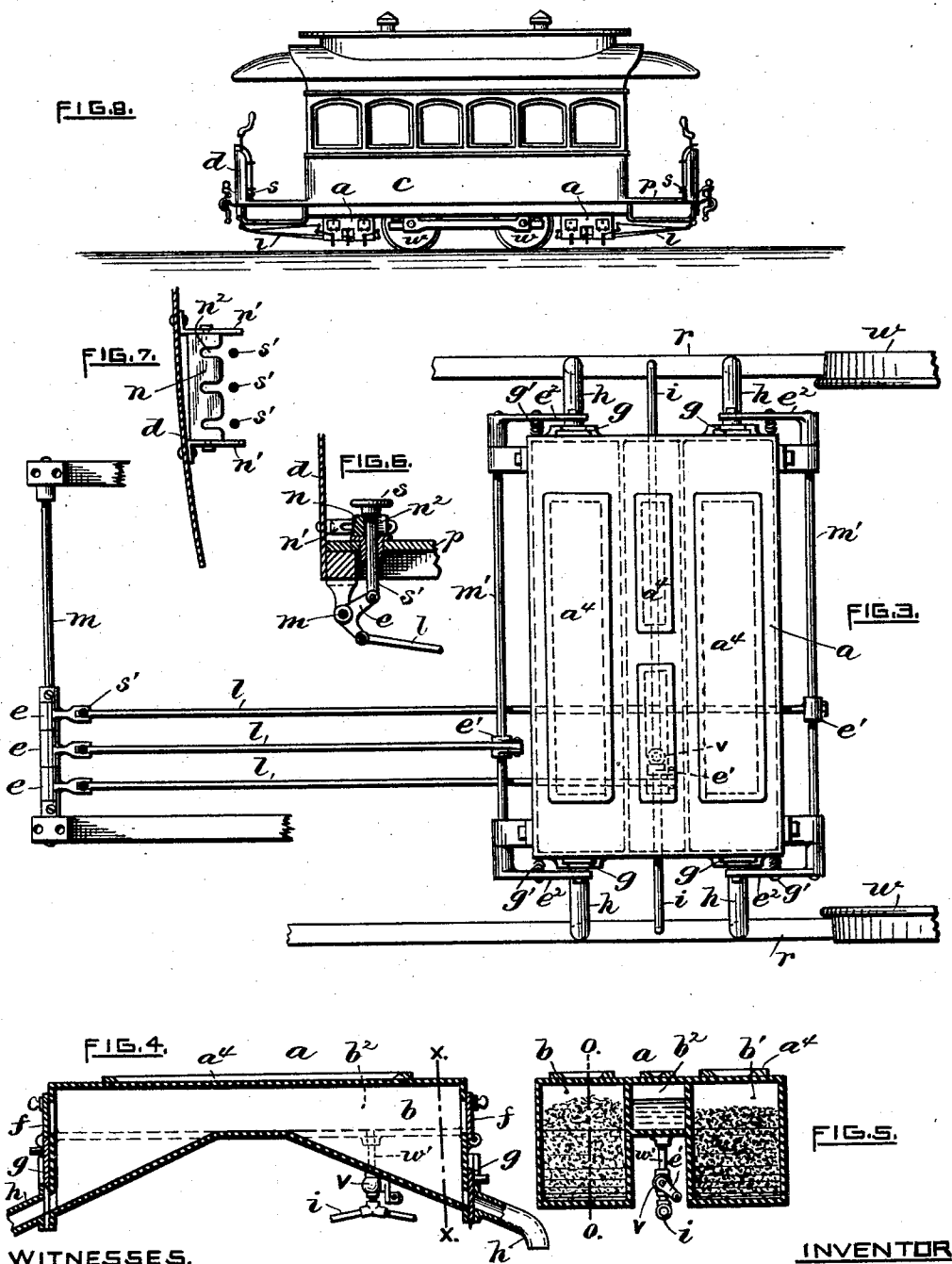
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UNITED STATES PATENT OFFICE.

ALICE A. WHIPPLE, OF PROVIDENCE, RHODE ISLAND.

APPARATUS FOR SANDING RAILROAD-TRACKS.

SPECIFICATION forming part of Letters Patent No. 484,926, dated October 25, 1892.

Application filed February 29, 1892. Serial No. 423,265. (No model.)

To all whom it may concern:

Be it known that I, ALICE A. WHIPPLE, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Apparatus for Sanding or Treating the Track-Rails of Railroads; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention has relation to devices for sanding railroad-tracks, but more particularly to track-rails for tramway and street-cars; and it consists, essentially, in the combination, with said rails and a car mounted thereon, of a material distributing apparatus comprising two or more reservoirs or supply-boxes, from which the materials are delivered to the tracks, a series of self-closing gates or valves for controlling such delivery, and foot-actuated levers or pushers connected with and arranged to open said gates.

The object I have in view is to provide street-cars with a more efficient and self-contained apparatus for sanding and otherwise treating or preparing the track-rails, as may be required from time to time in order to facilitate the passage of the cars over such track.

It is well known that in climbing gradients it becomes necessary at times to distribute sand or gravel along the rails in advance of the moving car to prevent the car-wheels from slipping. This requirement is particularly true during the winter season in northern latitudes. At other times—say when ice or snow are upon the track—a mixture of sand and salt is sometimes scattered along the rails to hasten the disintegration of the ice, &c., so that the track can be more easily and quickly cleaned, and thus lessen the strain upon the horses. It is also known that the curved portion of tracks sometimes becomes dry and very smooth, or “glassy” as it is termed, thereby on quick curves or curves having short radii, rendering it difficult to haul a loaded car over it, owing to the increased percentage of friction.

When the track is found to be in the condition last referred to, it is usual to apply to the rails some kind of antifriction material—such, for example, as oil or grease.

In my improved apparatus I preferably provide it with three chambers or supply-boxes adapted to contain sand, oil, salt, or salt and sand combined, respectively, each box being arranged to deliver its contents upon both rails by means of gates actuated and controlled by the driver from the front platform.

In the accompanying two sheets of drawings, Figure 1, Sheet 1, is a side elevation, in partial section, of the forward portion of a street-car provided with my improvement. Fig. 2 is an end elevation of the same, the front board or dasher being omitted. Fig. 3, Sheet 2, is a plan view of the apparatus. Fig. 4 is a longitudinal sectional view of the reservoir, taken through the sand-box chamber or on line *o o* of Fig. 5. Fig. 5 is a transverse sectional view taken on line *x x* of Fig. 4. Fig. 6 is a vertical sectional view taken through a portion of the car-platform, showing a device for locking the valve-operating mechanism. Fig. 7 is a plan view of the same, the locking-block being withdrawn; and Fig. 8 is a side elevation, in reduced scale, showing a street-car equipped at each end with my invention.

The following is a more detailed description of the apparatus and the manner of operating it:

c, again referring to the drawings, indicates an ordinary street-car provided with front and rear platforms *p* and front boards *d*, substantially as common. To the under side of the car, forward of the wheels *w* is secured the reservoir or supply-boxes *a*, made, preferably, of sheet metal. Said reservoir extends transversely of the car, and as drawn is divided into three compartments or chambers, the forward one *b* being used, say, to contain sand or gravel, the middle one *b*² oil, and the rear box *b*³ for salt, or sand and salt combined. Each chamber or box is provided with a top cover *a*¹, and the under side of the boxes *b b*³ is inclined or sloping toward the outer ends to facilitate the flow of the materials therefrom when the gates or valves about to be described are opened. The ends of the two boxes *b b*³

are provided at the bottom with discharge-pipes or chutes *h*, arranged to deliver the contents of the boxes directly upon the track-rails *r* by gravity upon lifting the interposed
 5 guided gates *g*. The intermediate chamber or oil-box *b*² is somewhat smaller than the other boxes and is provided with an education-pipe *w'*, from which extend branch pipes *z*, whose outlets are substantially in line with
 10 the tracks. A valve or cock *v*, located in the pipe *w'*, serves to control the flow of oil from the chamber.

The mechanism for operating the said gates and valve may be described as follows: To
 15 the front and rear sides of the reservoir *a* are mounted rocker-shafts *m'*, carrying at each end a lever *e*², which in turn is jointed to its respective gate *g*. Each of these shafts is also provided with a lever *e'*, to which is
 20 jointed a pull rod or link *l*, connected with one arm of a bell-crank lever *e*, loosely mounted upon a stationary shaft *m*, located below the forward end of the car-platform, as clearly indicated. For operating the valve *v*
 25 the shaft *m'* is omitted and the lever *e'* is secured directly to the valve itself, the same being also connected with a bell-crank lever by means of a link *l*. It will be noticed, referring to Figs. 1 and 2, that to the other arm
 30 of each of the levers *e* is jointed a vertically-guided short push-rod *s'*, surmounted by an enlarged head or stop *s*, conveniently arranged to be depressed by the foot of the car-driver. From this it is apparent that upon
 35 depressing either of the said stops it will cause the corresponding gates or valve to be opened, thereby allowing the material to flow from the respective box onto both track-rails simultaneously. Upon removing pressure
 40 from the stop a spring *g'*, Figs. 1 and 3, attached to the thus-opened gates or valve, operates to automatically close the latter, and thus cut off the flow of material from the box.

The several boxes may be filled from the
 45 top after removing the covers *a'*; but I prefer to fill or charge them at the ends, swinging doors *f*, Fig. 1, being provided for that purpose. In the latter case the sand may be shoveled directly into the box through the
 50 doors. In lieu of this arrangement, a removable filling-tube *k* (shown by dotted lines in Fig. 2) may be employed.

In street-cars arranged to be operated from each end, or "double-enders," as they are
 55 sometimes called, I prefer to provide them with two complete reservoirs *a* and corresponding operating mechanism, as shown in Fig. 8; but in non-reversible cars—that is, cars arranged to be driven or operated from
 60 one end—of course only one reservoir will be required.

My improved track-treating apparatus may be located at the center of the car, in which event the delivery pipes or outlets from the

several boxes would discharge upon that portion of the tracks intermediate of the car-wheels.

During certain seasons of the year the use of sand, &c., as before described, becomes practically unnecessary and the apparatus
 70 may be removed from the car. If, however, it is allowed to remain, the several gates and valves may be locked or rendered inoperative by the use of the device represented in Figs. 6 and 7, wherein a guided block *n*, provided
 75 with a series of notches *n*², arranged to each receive a push-rod *s'*, is interposed between the under side of the stops and the car-platform, as in Fig. 6, thereby rendering the stops
 80 immovable for the time being.

n' n' indicate two short brackets between which the block *n* is held and guided.

The ends of the reservoir may be provided with narrow glass-covered openings *o*, Fig. 1, by means of which the attendant can at any
 85 time ascertain the condition of the several boxes.

Although my improvement is, as drawn, more particularly adapted to street-cars, it is obvious that it may be modified and advantageously employed on other types or classes
 90 of cars without departing from the spirit of the invention.

I claim as new and desire to secure by United States Letters Patent—

1. The combination of a multiple-chambered box arranged to be mounted beneath the car, delivery-tubes communicating with said chambers, provided with self-closing
 100 valves or gates, and a series of independently-movable valve-operating devices, each having a push-rod extending upwardly through the car-platform, substantially as hereinbefore described, and for the purpose
 105 set forth.

2. In a track-treating device arranged to be secured to the under side of the car and operated from the front platform, a multiple-chambered box provided with means for filling and emptying the same and having the
 110 walls of said chambers provided with glass-covered openings, as *o*, substantially as hereinbefore described, and for the purpose set forth.

3. The combination, with a track-sanding
 115 or treating apparatus provided with a series of self-closing valves or gates operated by vertically-movable pedal levers or stops from the car-platform, of a movable locking-block arranged when in use to prevent the said levers
 120 from being depressed, substantially as described.

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

ALICE A. WHIPPLE.

Witnesses:

CHARLES HANNIGAN,
 GEO. H. REMINGTON.