No. 646,201. Patented Mar. 27, 1900.

F. E. ALLEN.

TRACK SANDING DEVICE.

(Application filed Dec. 23, 1899.)

(No Model.)

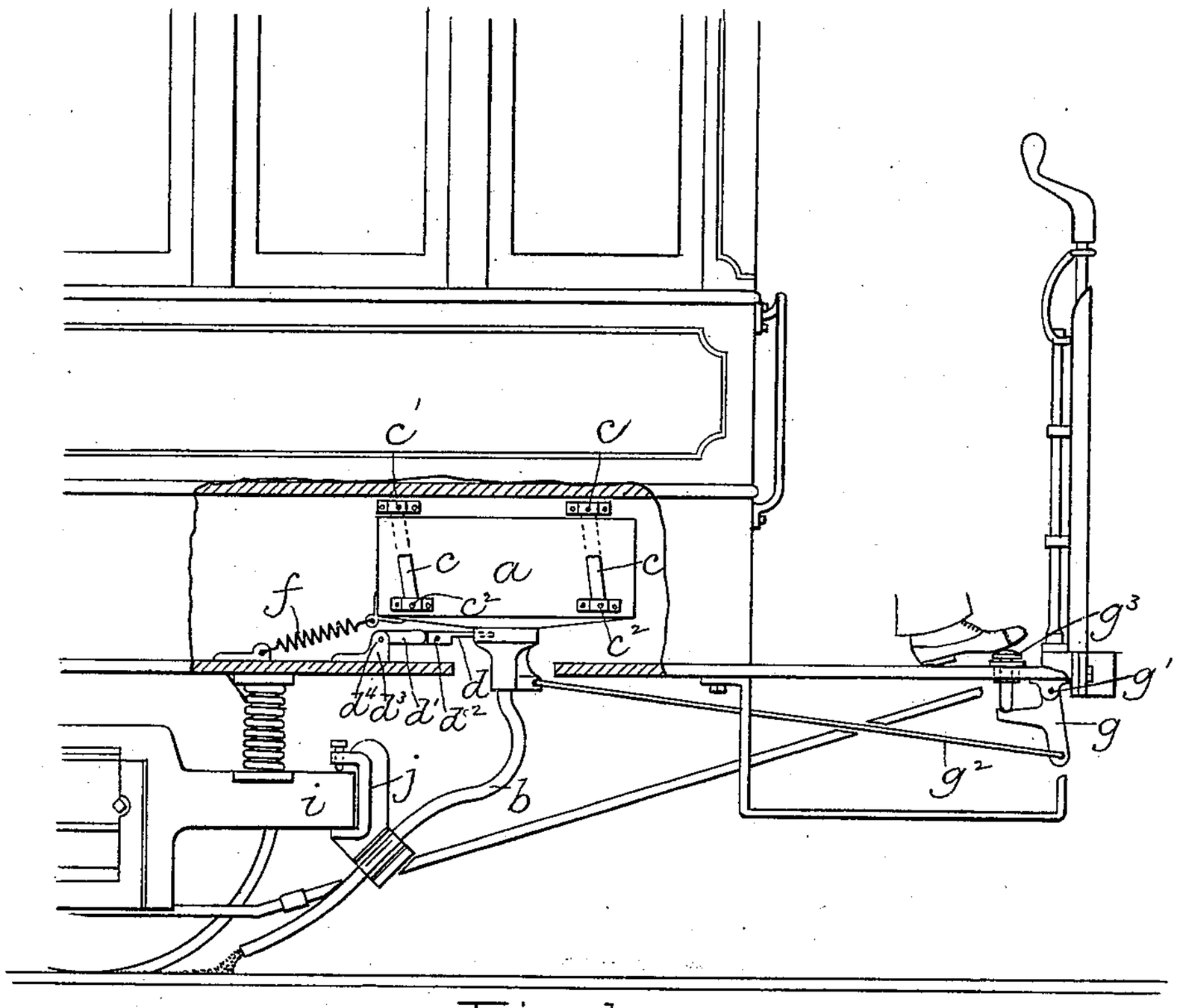

Fig. 1.

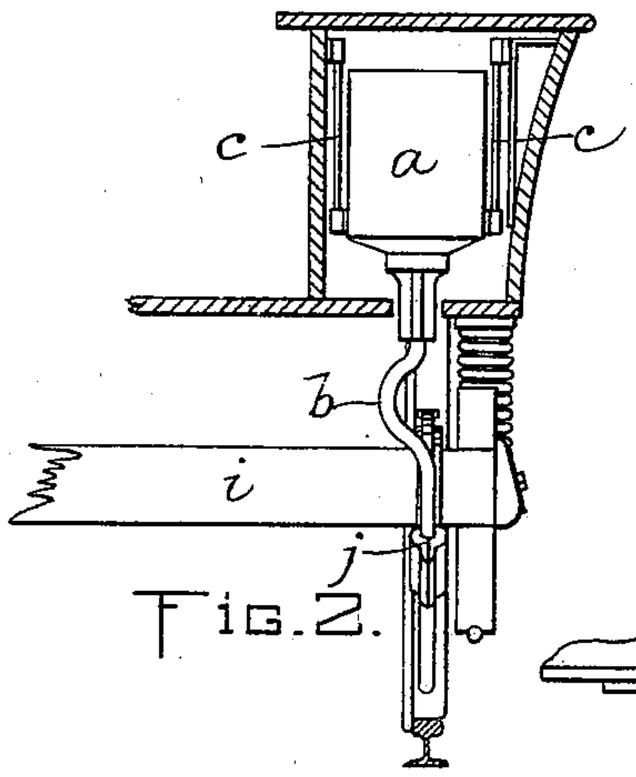

Fig. 2.

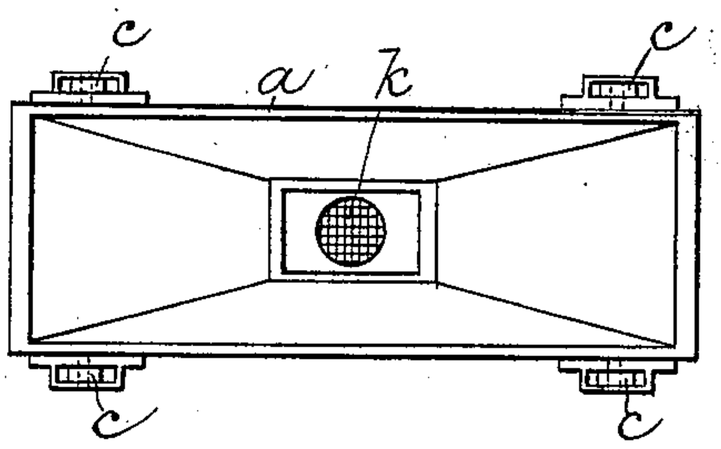

Fig. 3.

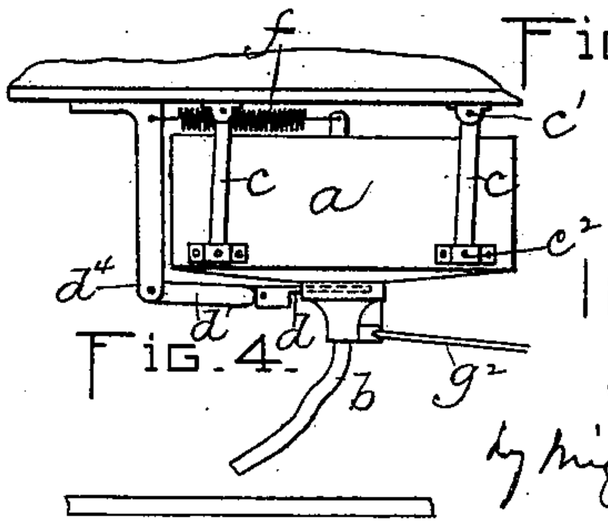

Fig. 4.

WITNESSES:
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UNITED STATES PATENT OFFICE.

FREDERICK E. ALLEN, OF BOSTON, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO FRANK E. H. GARY, OF SAME PLACE.

TRACK-SANDING DEVICE.

SPECIFICATION forming part of Letters Patent No. 646,201, dated March 27, 1900.

Application filed December 23, 1899. Serial No. 741,350. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK E. ALLEN, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Track-Sanding Devices, of which the following is a specification.

This invention has for its object to provide a simple and effective device for sprinkling sand, salt, &c., upon railway-tracks and is adapted particularly to prevent the sand from forming a solid bridge over the outlet of the sand-receptacle, and thus failing to reach the rails.

The invention consists in the improvements which I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a side elevation of a portion of a street-car provided with a sanding device embodying my invention, parts of the car being broken away. Fig. 2 represents a section on line 2 2 of Fig. 1. Fig. 3 represents a top view of the sand-receptacle. Fig. 4 represents a modification.

The same reference characters indicate the same parts in all the figures.

In the drawings, *a* represents a sand box or receptacle which is connected with the body of a car in such manner that it can be reciprocated or agitated to cause the escape of its contents through an outlet-pipe *b*. The receptacle *a* is here shown as supported by two pairs of links *c c*, said links being pivoted at *c'* to fixed supports on the car and at c^2 to the receptacle *a*, the links being thus adapted to oscillate on the pivot *c'*, so that the receptacle *a* can have a longitudinal back-and-forth movement.

d represents a valve or gate which is prevented from moving endwise with the receptacle *a* and projects into the outlet thereof, so that when the receptacle is at one end of its movement the gate obstructs the outlet and prevents the escape of sand, and when the receptacle is at the other extreme of its movement the outlet moves away from the gate and is opened, so that sand escapes. The gate *d* is here shown as connected by a link *d'*, pivoted at d^2 to the gate, with an ear or bracket d^3, affixed to the body of the car, the link being pivoted at d^4 to said bracket. This link connection prevents the gate *d* from moving endwise on the receptacle and permits it to rise and fall slightly, as required by the oscillating movements of the links *c c*, supporting the receptacle *a*.

f represents a spring which is connected with the receptacle *a* and with a fixed support on the car-body and is adapted to normally hold the receptacle *a* in the position shown in Fig. 4, the gate *d* obstructing the outlet when the receptacle is in the said position, which may be considered its normal position.

Mechanism under control of an attendant on the car is provided for moving the receptacle *a* from its normal position, thus agitating the contents of the receptacle and opening its outlet. The said means as here shown comprise a bell-crank lever *g*, pivoted at *g'* to an ear on the under side of the car-platform and having one of its arms connected by a link or rod g^2 with an ear attached to the receptacle *a*, and a pedal g^3, arranged to act on the other arm of the lever. The spring *f* normally holds the parts with the pedal g^3 raised. When the motorman depresses the pedal, as shown in Fig. 1, the lever *g* and rod g^2 cause a movement of the receptacle *a* away from its operative position, thus agitating the contents of the box and opening the outlet. When the pedal g^3 is released, the spring *f* returns the parts to the position shown in Fig. 4.

It will be seen that the movements thus imparted to the receptacle *a* prevent the packing of the sand therein in such manner as to bridge over the outlet and stop the flow of sand from the receptacle.

The outlet-pipe *b* is preferably flexible when the device is applied to a car having radial trucks, the flexibility of the pipe compensating for the movements of the truck-frame relatively to the car-body. I have shown the lower portion of the flexible pipe *b* connected with the truck-frame *i* by means of a clamp *j*, having provisions for engagement with the truck-frame and with the pipe.

The receptacle *a* is preferably provided with a woven-wire screen or sieve *k* at the upper

end of the outlet to prevent the latter from being clogged by pebbles and large solid fragments in the sand.

In Figs. 1 and 2 I have shown the receptacle *a* suspended within the cavity below the seat of a car which is open at the ends; but it is obvious that the receptacle may be suspended from the bottom of the car, as shown in Fig. 4, or otherwise located.

It is obvious that in case the construction of the car and the connection of the wheels thereto do not require the use of flexible outlet-pipes said pipes may be rigid.

I claim—

1. A track-sanding device comprising a horizontally-movable receptacle, means for reciprocating it horizontally, a discharge-spout leading from the bottom of the receptacle, and means for controlling the escape of sand through said outlet.

2. A track-sanding device comprising a horizontally-movable receptacle, means for reciprocating it horizontally, and a flexible discharge-spout leading from the bottom of the receptacle and confined to a support below the receptacle.

3. A track-sanding device comprising a movable receptacle, means for agitating it, and a valve or gate in the outlet of the receptacle adapted to be opened and closed by movements of the receptacle.

4. A track-sanding device comprising a horizontally-movable receptacle adapted to be horizontally reciprocated, a discharge-spout leading from the bottom of the receptacle, a spring which normally holds the receptacle at one extreme of its movement, and means for moving the receptacle from its normal position.

5. A track-sanding device comprising a movable receptacle, a spring which normally holds the receptacle at one extreme of its movement, means for moving the receptacle from its normal position, and a fixed valve or gate which closes the outlet of the receptacle when the latter is in its normal position and opens said outlet when the receptacle is moved from its normal position.

6. A track-sanding device comprising a horizontally-movable receptacle, adapted to be horizontally reciprocated, a discharge-spout leading from the bottom of the receptacle, a spring which normally holds the receptacle at one extreme of its movement, a bell-crank lever pivoted to a fixed support, a rod connecting one arm of said lever with said receptacle, and a pedal engaged with the other arm of the lever.

7. A track-sanding device comprising a receptacle, links suspended in pairs from fixed supports and pivoted to the receptacle, and means for reciprocating the receptacle.

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

FREDERICK E. ALLEN.

Witnesses:

FRANK E. H. GARY,

C. F. BROWN.