(No Model.)

L. DE L. CAMMANN.

SAND BOX FOR TRAM CARS.

No. 345,768. Patented July 20, 1886.

Fig. 1.

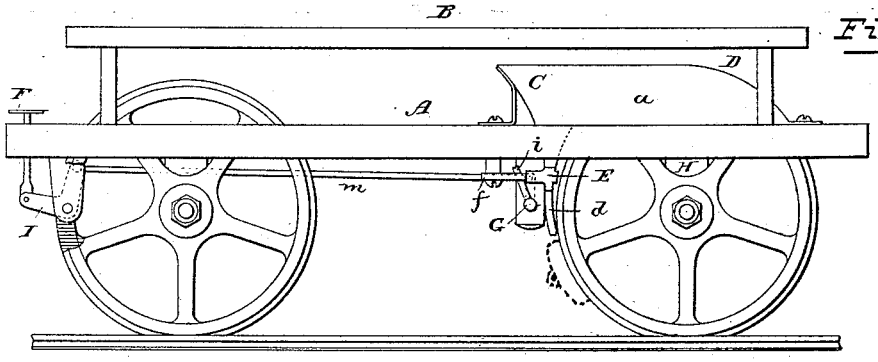


Fig. 2.

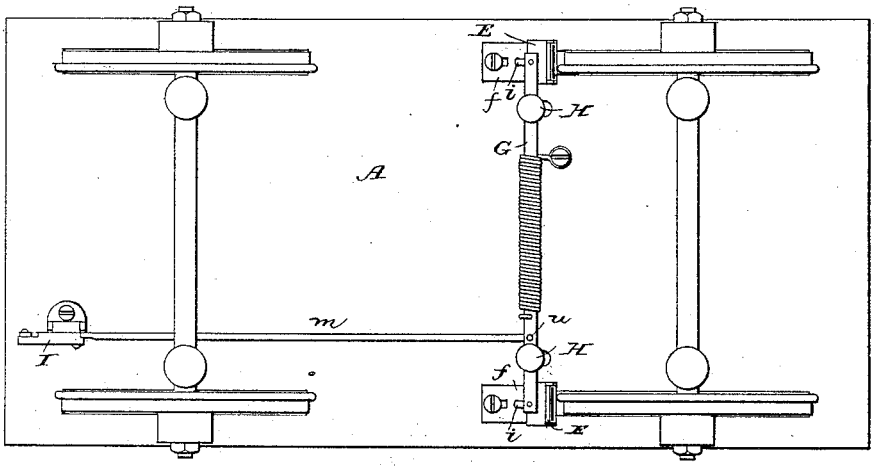
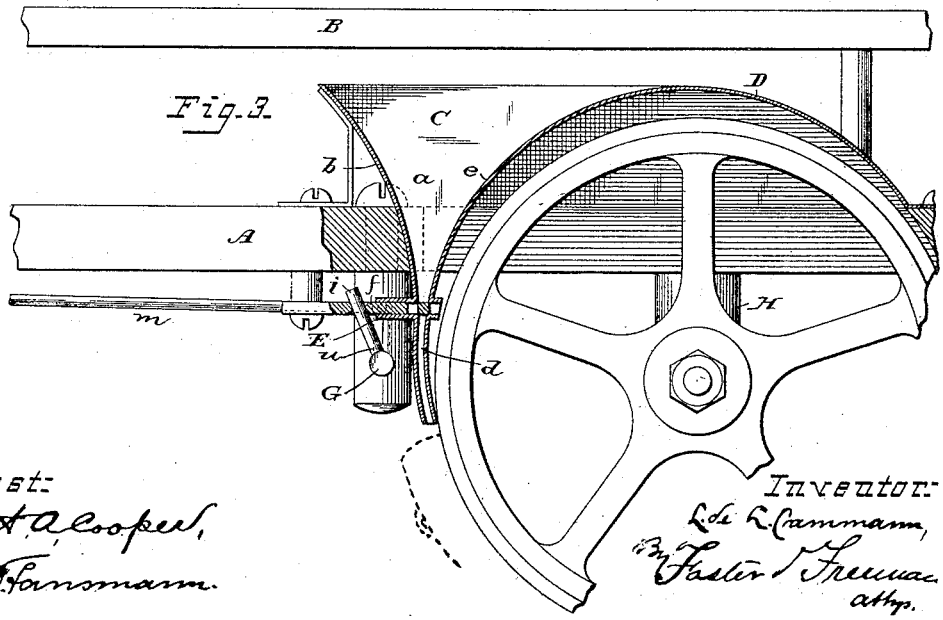


Fig. 3.



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UNITED STATES PATENT OFFICE.

LOUIS DE L. CAMMANN, OF NEW YORK, N. Y.

SAND-BOX FOR TRAM-CARS.

SPECIFICATION forming part of Letters Patent No. 345,768, dated July 20, 1886.

Application filed January 23, 1886. Serial No. 189,486. (No model.)

To all whom it may concern:

Be it known that I, LOUIS DE L. CAMMANN, a citizen of the United States, and a resident of the city, county, and State of New York, have invented certain new and useful Improvements in Sand-Boxes for Tram-Cars, of which the following is a specification.

My invention has for its object to provide a tram or other car with means of readily distributing sand, &c., adjacent to the wheels; and my invention consists in arranging sand-hoppers provided with valves adjacent to the wheels, and in combining therewith valve-operating devices, as fully described hereinafter, and shown in the accompanying drawings, in which—

Figure 1 is a side view of sufficient of a tram-car to illustrate my invention. Fig. 2 is an inverted plan; Fig. 3, an enlarged view of the sand-hopper and adjuncts.

The frame and running-gear of the car are constructed in any of the various different ways commonly employed in the manufacture of tram-cars, to any of which my invention is applicable.

In any suitable position on the car-platform A, preferably below the seat B, on each side, and adjacent to one or more of the wheels, is a hopper, C, containing sand.

In the construction shown each hopper is formed by an extension of the side pieces, *a a*, of a metallic case or guard, D, extending over the wheel within the car, an end plate, *b*, and the curved guard-plate *e*, constituting the edge plates of the hopper, which extend downward and converge, forming a narrow curved spout, *d*. In the line of the spout is a box, E, containing a sliding plate or valve, *f*, having a perforation, which may be brought into line with the channel in the spout, to permit the sand to flow downward, or may be carried to one side to obstruct the channel. The spout *d* is extended close to the periphery of the wheel, so as to throw the sand close to, and, if possible, upon, the latter, in which case the brakes are caused to take a much better hold, and the wheel prevented from sliding on the track.

The slides or valves are constructed with any suitable operating mechanism. Thus a rock-shaft, G, is supported in hangers H, beneath the car-platform, and is provided with arms *i i*, extending into openings in the slides, so that the latter are moved in and out by rocking the shaft. The shaft is turned in one direction by a spring coiled round the same, the spring tending to keep the valve closed. The shaft is turned in the opposite direction to open the valve by means of an operating lever or levers on the platform adjacent to the operator.

When there are hoppers adjacent to both pairs of wheels, there are two operating-levers and any suitable connections between the same and the valves.

As shown, there is a foot-lever, I, on the platform connected by a rod, *m*, to an arm, *u*, on the valve-operating shaft, and the spring, by turning the shaft, tends to keep the foot-plate F in an elevated position, so that it may be pressed down by the foot to open the valve.

When there are two sets of hoppers and it is desirable to throw either device out of operation, this is done by inserting a block under one of the foot-plates, thus preventing it from being depressed.

Without limiting myself to the precise construction and arrangement of parts shown, I claim—

1. The combination, with the wheel of a tram-car, and with the platform, through which the wheel extends, of a sand-hopper above the platform, with a spout extending through said platform, the mouth of the spout being opposite and in close proximity to the tread of the wheel, to throw the sand thereon, and a valve and operating appliances, substantially as described.

2. The combination of the car-wheel, guard extending over the same, and sand-hopper provided with a valve, and formed by an extension of the side plates of the guard, and by an edge plate, *b*, substantially as described.

3. The combination of the wheel, sand-hopper case D, covering the wheel above the platform, sliding valve, and operating-lever connected to said valve, substantially as described.

4. The combination, with the hoppers above

the platform, spouts, slide-valves, and operating-lever and connections, of a rock-shaft provided with arms extending through openings in the valves, and a foot-lever connected to the rock-shaft, substantially as described.

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

LOUIS DE L. CAMMANN.

Witnesses:
W. DE L. WILKINS.
CHARLES T. AUSTIN.