(No Model.)

E. C. COLLINS.

TRACK SANDING DEVICE FOR STREET RAILWAY CARS.

No. 589,417. Patented Sept. 7, 1897.

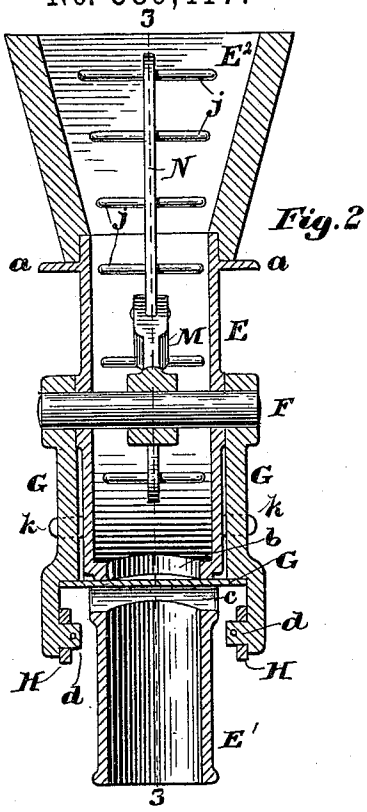


Fig. 2.

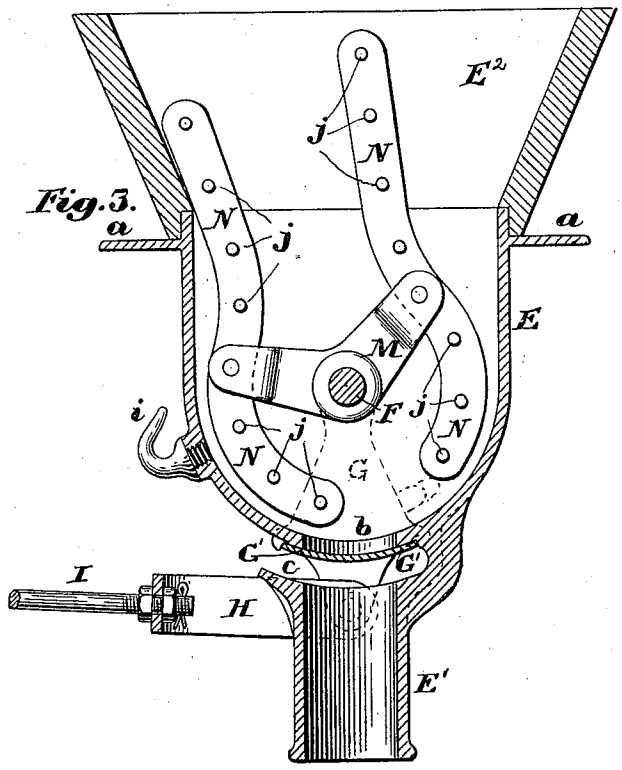


Fig. 3.

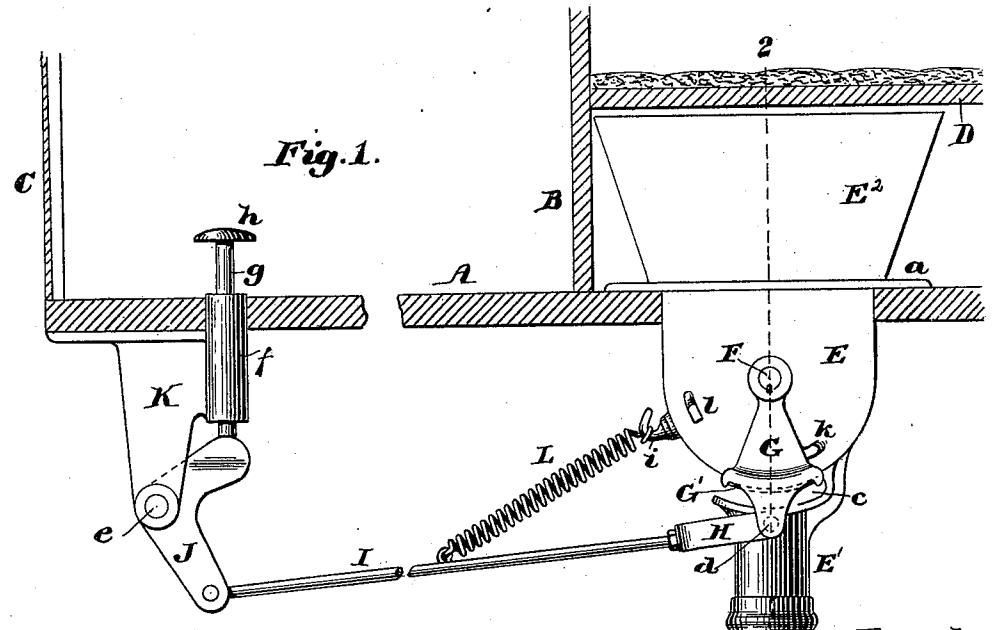


Fig. 1.

Witnesses:
Walter E. Lombard.
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UNITED STATES PATENT OFFICE.

EDWARD C. COLLINS, OF TAUNTON, MASSACHUSETTS, ASSIGNOR TO THE TAUNTON LOCOMOTIVE MANUFACTURING COMPANY, OF SAME PLACE.

TRACK-SANDING DEVICE FOR STREET-RAILWAY CARS.

SPECIFICATION forming part of Letters Patent No. 589,417, dated September 7, 1897.

Application filed July 15, 1897. Serial No. 644,647. (No model.)

To all whom it may concern:

Be it known that I, EDWARD C. COLLINS, of Taunton, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Track-Sanding Devices for Street-Railway Cars, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to track-sanding devices for street-railway cars, and is an improvement upon the invention described in the Letters Patent No. 586,014, granted to me July 6, 1897; and it consists in certain novel features of construction, arrangement and combination of parts, which will be readily understood by reference to the description of the accompanying drawings and to the claims hereto appended, and in which my invention is clearly pointed out.

Figure 1 of the drawings is a section of a portion of one end of a street-car with my track-sanding device shown in elevation as applied thereto. Fig. 2 is a vertical section through the hopper and discharge-pipe on line 2 2 on Fig. 1, and Fig. 3 is a vertical section on line 3 3 on Fig. 2.

In the drawings, A represents a portion of the floor of a car, B the end wall of the car-body, C the dasher, and D the car-seat, all constructed in any well-known manner.

E is a metal casing provided with a flange *a*, by which it is supported from the floor A of the car. The chamber in said casing has a semicircular bottom concentric with the axis of the shaft F, which is mounted in bearings in the side walls of said casing, as shown.

The casing E has a circular discharge-opening *b* in its bottom, and has formed integral therewith the discharge nozzle or pipe E′, the connection between said casing and nozzle being entirely at one side of the discharge-orifice *b*, a curved slot *c* intervening between said casing and nozzle opposite the orifice *b*, as shown in Fig. 3.

The shaft F has firmly secured upon each end thereof, outside of said casing, a pendent arm G, provided with a pin *d* at its lower end, upon which is fitted the U-shaped yoke H, to the center of which is connected the rod I, the opposite end of which is pivoted to the elbow-lever J, fulcumed at *e* to the stand K, secured to the under side of the floor A, as shown in Fig. 1.

The stand K is provided with the hub *f*, which projects upward through the floor and has fitted to a bearing therein the rod *g*, the lower end of which rests upon the upper arm of the lever J, and has secured to its upper end the button or pad *h*, as shown.

The arms G G have secured thereto the curved valve-plate G′, which closes the orifice *b* when in its normal position, where it is held by the spring L, one end of which is connected to the rod I and the other to the hook *i*, set in the casing E, as shown in Fig. 1.

The shaft F has firmly secured thereon at the center of its length the elbow-lever M, the outer ends of which are forked to receive the curved bars N, which are loosely pivoted thereto, so as to be movable about their pivotal connections, said bars projecting above and below said pivotal connections and having a series of transverse rods *j j* set therein and projecting therefrom on opposite sides, as shown in Figs. 2 and 3.

The casing E has formed upon each side thereof the two lugs *k* and *l*, which serve to limit the movement of the arms G G in either direction.

The metal nozzle or discharge-pipe E′ has connected thereto a section of flexible tubing, as rubber hose O, which extends downward nearly to the track-rail.

A hopper E^2, made preferably of wood, incloses the upper opening of the casing E and extends upward nearly to the under side of the car-seat D, for the purpose of increasing the capacity of the sand-holding receptacle.

The operation of my invention is as follows: When it is desired to deposit sand upon the rail to increase the traction of the wheel, the motorman depresses the rod *g*, thereby opening or partially opening the valve G′ to permit a quantity of sand to be discharged through the orifice *b*, through the nozzle E′, and the flexible tubing O and fall upon the track. This movement of the valve causes a partial rotation of the shaft F and a corresponding oscillation of the elbow-lever M and upward and downward movements of the bars N N and the transverse arms *j j*, thus effectually preventing any packing of

the sand either in the top or bottom of the sand-holding receptacle. The reverse motions of the several parts are caused by the tension of the spring L when the foot is removed from the pad *h*.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a track-sanding device the combination of the sand-holding casing having a semicircular bottom with a discharge-opening through its lowest part, and a conveying nozzle or pipe in axial line with said discharge-opening formed integral with said casing but connected thereto only at one side of said discharge-opening; and a reciprocating valve movable in an arc of a circle between said discharge-opening and nozzle.

2. In a track-sanding device the combination of a sand-holding receptacle having a semicircular bottom and provided with a discharge-opening in its bottom; a rocker-shaft mounted in bearings in said receptacle with its axis coinciding with the axis of the curved bottom of said receptacle; an elbow-lever secured upon said shaft within said receptacle; a bar N pivoted loosely to the end of each arm of said lever, and extending above and below said pivotal connection; a series of transverse rods or arms *j j* set in each of said bars, the pendent arms G secured one upon each end of said shaft; the valve G′ secured to and connecting said arms in position to close said discharge-opening; and means for vibrating said arms G to open and close said discharge-opening.

3. In a track-sanding device the combination of a sand-holding receptacle having a curved bottom and provided with a discharge-opening in said curved bottom; a sand-conveying nozzle or pipe in axial line with said discharge-opening and formed integral with said sand-holding receptacle; the rocker-shaft F; the arms G G; the valve G′; the yoke H; the rod I; the elbow-lever J; the rod *g h*; the spring L; the lever M; the bars N N and transverse rods *j j* all constructed, arranged, and operating substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 9th day of July, A. D. 1897.

EDWARD C. COLLINS.

Witnesses:
GEORGE H. SWIFT,
HARRIS T. ALBRON.