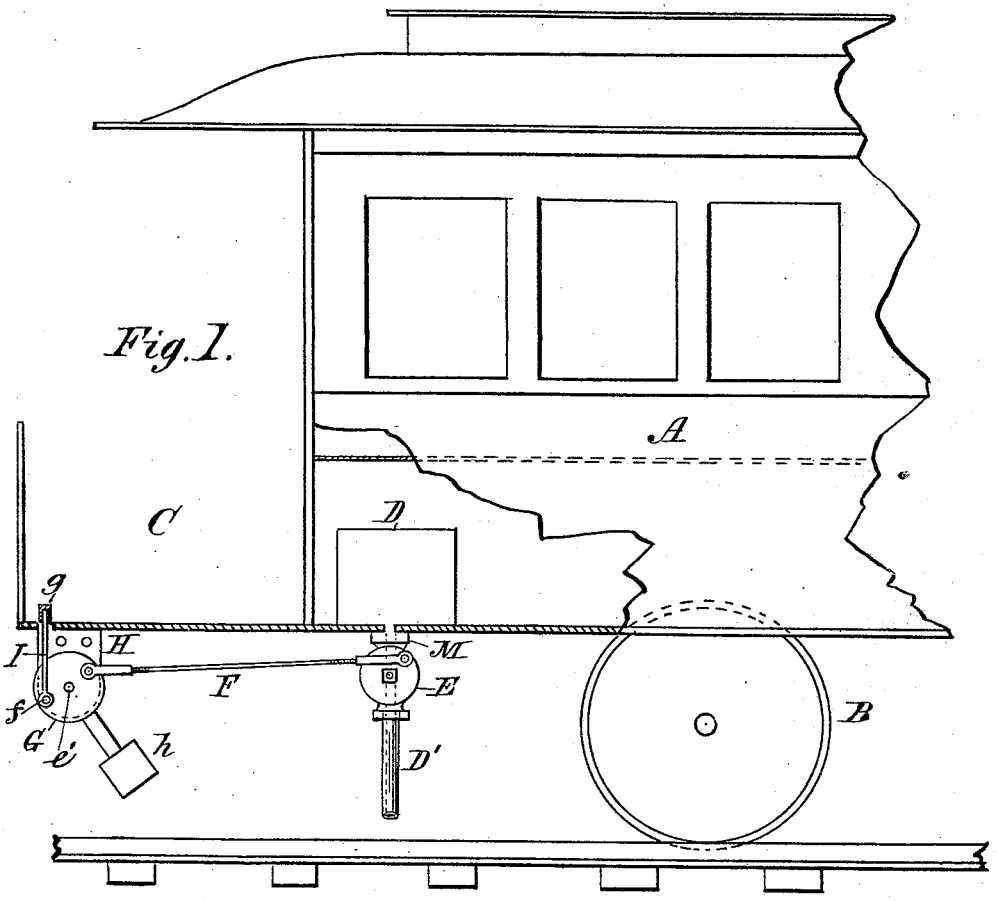
(No Model.)

D. A. GHENT & O. S. COLBRAN.

SANDING DEVICE FOR CARS.

No. 494,136. Patented Mar. 28, 1893.

Fig. 1.



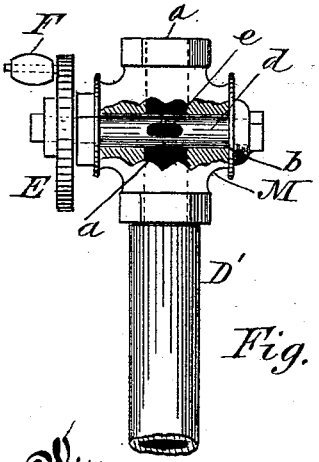


Fig. 2.

Fig. 4

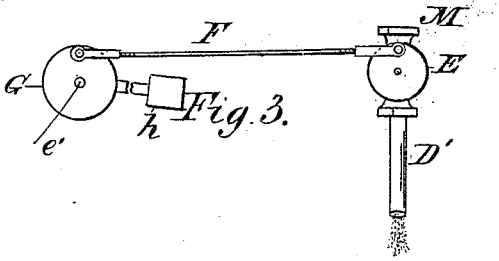


Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

DAVID ALBERT GHENT AND OCTAVIUS SYDNEY COLBRAN, OF BURLINGTON, CANADA.

SANDING DEVICE FOR CARS.

SPECIFICATION forming part of Letters Patent No. 494,136, dated March 28, 1893.

Application filed January 6, 1893. Serial No. 457,503. (No model.)

To all whom it may concern:

Be it known that we, DAVID ALBERT GHENT and OCTAVIUS SYDNEY COLBRAN, citizens of the Dominion of Canada, residing at Burlington, in the county of Halton, in the Province of Ontario, Canada, have invented a certain new and useful Apparatus for Sanding Street-Railway Car-Tracks; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same.

The invention relates to a very simple, but handy and useful device for sanding street car tracks, when the conditions are such as to cause the wheels to slide on the track when the car cannot be stopped short with the brakes, and which can be operated instantly by the driver pressing his foot on a projecting knob on the platform floor of a car.

The device consists, first, in a reservoir of any shape, preferably of sheet metal, filled with fine sand and bolted to or otherwise secured on the floor of a car in any convenient place, such as at both ends under the seat, resting on the floor. It is provided with a valve seat and valve, with a rubber tube attached to conduct the sand to the track.

Second. An eccentric wheel is secured to the valve spindle, said wheel having a connecting rod leading to and connected with a second eccentric attached to a block affixed to the floor beams of a car, and on the opposite side of the eccentric is attached an operating rod made to pass up through the floor of the car a very short distance, convenient to be pressed down by the foot of the driver to open the valve to allow sand to escape when necessary.

Third. A counter balance weight is attached to the large eccentric which by its gravity always keeps the valve closed automatically until it is wished to open it for sanding the track to prevent the wheels from sliding when the track is wet or greasy from any cause.

Reference is made to the accompanying drawings, in which—

Figure 1 is a side section of a street car. Fig. 2 is an end view of valve-seat and valve closed, with eccentric. Fig. 3, shows the eccentrics and balance weight when the valve is open and the sand running out. Fig. 4, is a side view of valve-spindle in the position it is when open.

In the drawings A represents any ordinary street car, B the wheels, one only thought necessary to represent.

C, is the platform for the driver.

D, is a reservoir of sheet metal preferably secured in front of the wheels at each end of a car under the seat, and with an opening through the bottom of it immediately over the rails.

M, is a valve seat attached to the reservoir D, having a vertical opening *a* through it, and a horizontal opening *b* at right angles to and crossing the vertical one *a*, to contain a valve spindle *d*, having a valve opening *e* cut through it as shown at Fig. 2 for the admission of sand from the reservoir to the rubber tube D′ attached to the under side of the valve-seat M, when the said opening *e* is in a vertical position in the valve, as in Fig. 4.

E is an eccentric wheel secured to the valve spindle *d*, to which a connecting screw rod F is attached and also to another eccentric G, secured on a short shaft or stud *e′* attached to a block H bolted to the floor beams of a car.

I, is a vertical operating rod pivoted to a stud *f* on the eccentric G on the opposite side from where the connecting rod F is secured; the said rod projects through an opening in the floor of a car but not far enough to be operated by a driver's foot without a movable hollow cap *g*, being placed over it, when the device is easily operated by the driver; pressure of his foot downward on it opens the valve *d*, through the medium of the eccentric G, connecting rod F and eccentric E, and the sand runs out of the spout D′ by its gravity as long as the driver's foot is kept on the cap *g*. When he releases his foot from the cap *g*, the valve *d* closes immediately by means of the counterbalance weight *h* attached by a rod to the large eccentric G; when the valve is closed the balance-weight is in the position shown at Fig. 1; when the valve is open the weight is in the position shown at Fig. 3.

It will be seen that when the atmospheric or other conditions are such that car wheels will not revolve when the brakes are applied,

but slide on the track, as they usually do in wet weather, the driver has at his control a simple device to sand the track by pressure of his foot, when in any case of emergency he wishes to instantly stop his car, to prevent accident, which can now easily be done by turning off the power and applying the brakes and opening the sand valve.

Many collisions occur at railway crossings in a city when an electric street car crashes into a passing railway train, on account of the difficulty of stopping a car in a short distance, or on down grade, when the tracks are in such a condition (as often happens) when the car wheels slide on them after the brakes are applied.

Having thus described our device and its advantages, what we claim as our invention, and desire to secure by Letters Patent, is—

1. In combination with a street railway car, a sand reservoir attached thereto having a valve adjusted to the same and an eccentric secured to it, and a connecting rod from it to a second eccentric to which is fastened a vertical operating foot lever to open the valve to admit sand to the track rails, and a counter-balance weight attached on one of the eccentrics to automatically close the valve and shut off the sand when pressure is removed from the operating lever-rod, substantially as specified.

2. In combination with a street railway car, the reservoir D, valve seat M, valve *d*, eccentric E, connecting rod F, eccentric G on the stud *e'*, operating rod I, substantially as and for the purpose specified.

3. In combination with a street railway car, the reservoir D, valve seat M, valve spindle *d*, eccentric E on valve spindle *d*, adjustable connecting-rod F, attaching eccentric E to eccentric G, operating rod I, counterbalance weight *h*, and pipe D', all constructed substantially as and for the purpose specified.

Dated at Hamilton, Ontario, this 7th day of December, 1892.

DAVID ALBERT GHENT.
OCTAVIUS SYDNEY COLBRAN.

In presence of—
GEO. MCKEANE,
WM. BRUCE.