

(No Model.)

2 Sheets—Sheet 1.

J. J. KENNELLY.
SANDING BOX FOR CARS.

No. 501,722.

Patented July 18, 1893.

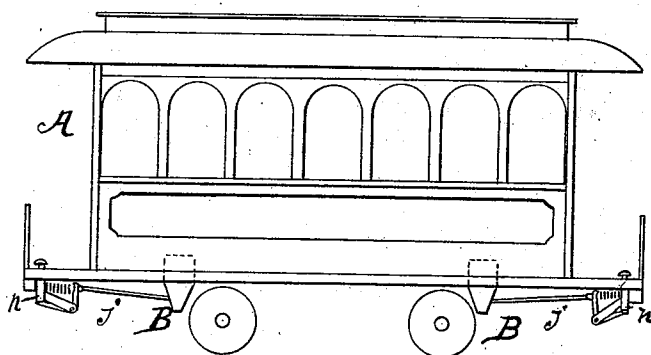


Fig. 1.

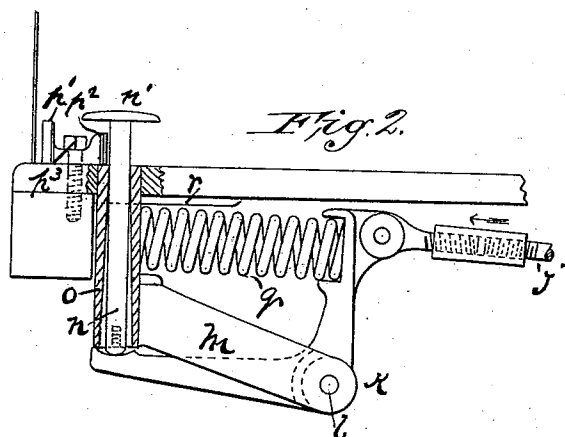


Fig. 2.

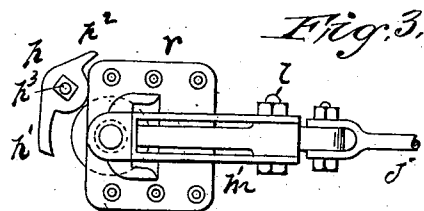


Fig. 3.

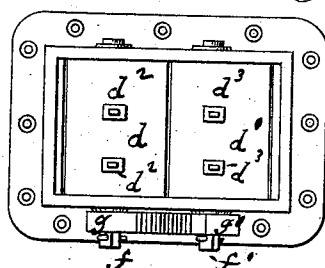


Fig. 4.

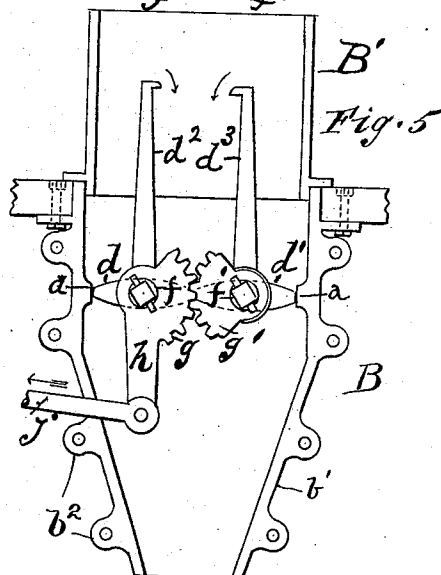


Fig. 5.

Witnesses:
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Arthur L. Hendon

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John J. Kennelly
By
M. Brown
Atty

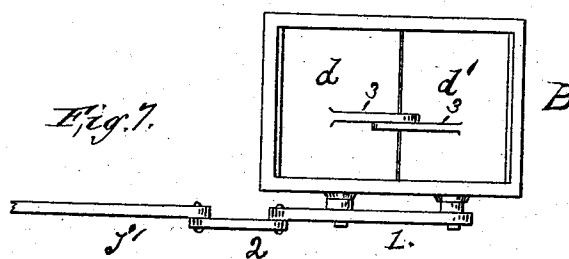
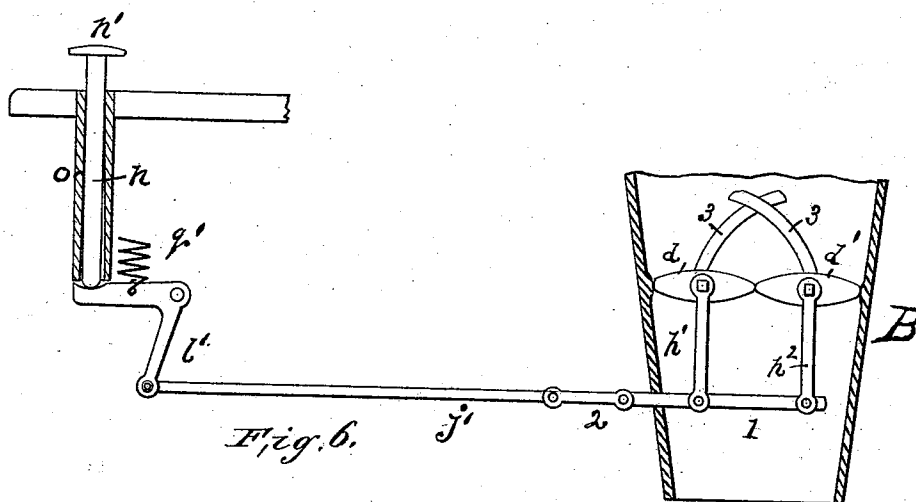
(No Model.)

J. J. KENNELLY.
SANDING BOX FOR CARS.

2 Sheets—Sheet 2.

No. 501,722.

Patented July 18, 1893.



Attest.
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by Walter Brown
att'y

UNITED STATES PATENT OFFICE.

JOHN J. KENNELLY, OF NEW YORK, N. Y., ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE STERLING CAR HEATING AND LIGHTING COMPANY, OF SAME PLACE.

SANDING-BOX FOR CARS.

SPECIFICATION forming part of Letters Patent No. 501,722, dated July 18, 1893.

Application filed March 10, 1893. Serial No. 465,474. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. KENNELLY, a citizen of the United States, and a resident of New York, in the county and State of New York, have invented a certain new and useful Improvement in Sanding-Boxes for Street-Cars and other Vehicles, of which the following is a specification.

My invention relates to improvements in sanding boxes for cars on tram and street lines. In all cases where the car is a self mover, as in the case of electric-motor cars, or compressed air motors and numerous others, the slipping of the wheels on the rails in frosty, sleety or snowy weather is a serious matter, and it is the especial object of my invention to provide a device on such cars for sanding the rails to increase the friction, which device shall be small and compact enough to be readily worked by the motor man, (preferably by his foot, but by hand if so desired.)

It is also the purpose of my invention to introduce into the box devices for picking and loosening the sand, operated by the same action as feeds the sand to the rails.

Referring to the drawings which accompany the specification to aid the description, Figure 1 is a representation of the device applied to a street car. Fig. 2 is an enlarged sectional detail of the device for operating the sanding box by the foot of the motor man. Fig. 3 is a view of the same from below. Fig. 4 is a plan view of the sanding box. Fig. 5 is an elevation of the same with one side removed, to show the interior. Fig. 6 is a representation of a modification of the device. Fig. 7 is a plan view of sanding box of the same.

The car, A, is of any usual description, and preferably has two of the sanding apparatus each placed in front of the diagonally opposite wheel of each pair of wheels.

The sanding box, B, is secured to the bottom of the car in front of its proper wheel, as seen in Fig. 1, and an upper part, B', rises above the floor nearly to the seats, so as to hold a considerable quantity of sand. The opposite sides of the box preferably have little ledges, a, a, to make a good fit with the

bottoms, d, d' , that are pivoted on the axles, f, f' , which turn in bearings in the box. Said bottoms, d, d' , are of such dimensions as when horizontal, to fill the area of the box, and the said bottoms, d, d' , carry vertical arms, d^2, d^3 , with pointed or bladed upper ends, to prick the sand, as will be described hereinafter. The said axles, f, f' , of the bottoms, d, d' , carry fixed and geared sectors, g, g' , which intermesh as shown, and one of these sectors, g , has a depending arm, h , which pivotally connects with a connecting rod, j , that leads forward to one arm of a bell crank lever, k , pivoted at l in a frame or yoke, m , at the platform of the car. The other end of the lever, k , is acted on by a tread post, n , which is guided in a vertical sleeve, o . The bore of said sleeve, o , is preferably enlarged downwardly, as shown, to facilitate the removal of dirt. Under the head, n' , of said post, n , is a trip, p , having one arm, p' , somewhat higher than the other p^2 , and pivoted at p^3 , so that the arm, p' , can when desired be turned under the head, n' , to prevent depressing the post, n . A spring, q , is arranged to retract the bell crank lever, k , after the same has been acted on by the post, n . r , is a flange plate to aid in securing the sleeve, p , and frame m to the bottom of the platform.

The operation is as follows: Suppose the motor man wishes to sand the track, then he steps on the top of the post, n , at the front end of the car, thereby depressing the bell crank lever, k , and drawing the connecting rod, j , to the left. This oscillates the lever, h , and rotates the gear sector, g , and tips the bottom, d . At the same time the geared sector, g' , tips the bottom, d' , and the sand runs out over the rail. While the bottoms, d, d' , are tipping, the arms, d^2, d^3 , and their upper blades work and prick the sand, so as to loosen it if it is caked. By working his foot rapidly on the post, n , the motor man is thus able to readily loosen the sand. When the foot is removed from the post, n , the spring, q , pushes the bell crank lever, k , to its original position and the bottoms, d, d' , are thus again turned horizontal to prevent the escape of more sand.

In Figs. 6 and 7, I show a modification of

my device, wherein I use a link, 1, to operate the bottoms, d, d' , in place of the aforesaid geared sectors. The bottoms, d, d' , carry the blades, 3, 3, that are preferably crossed, and have a shearing action on the sand. Said link, 1, is pivotally attached as shown, at the lower ends of the arms, h, h^2 . I also prefer to use a short link, 2, between the link 1, and the connecting rod, j' , which rod, j' , is connected at its other end with the bell crank lever, l' , that is operated by the post, n , as before described. q' , is a spring to retract the bell crank lever, when the motor man's foot is lifted from the post.

The operation will be evident from the explanation given in connection with Figs. 1 to 5, and does not require separate description.

The sanding box, B, can of course be made in any suitable manner, but I prefer as a cheap and effective construction to form it with the box frame, b' , composed of two parts, having flanges, b^2 , with bolt holes on the meeting edges of each post.

Now, having described my improvement, I claim as my invention—

1. The combination, in sanding boxes, of pivoted bottoms in the boxes, arms on said bottoms adapted to prick the sand, geared sectors on the pivots of the bottoms, and devices for oscillating said sectors and bottoms, substantially as described.

2. In sanding boxes, the combination of pivotal bottoms, geared sectors thereon, and devices for oscillating said sectors, substantially as described.

3. The combination in sanding boxes, of a tread, bell crank lever and spring, connecting rod, box frame, pivotal bottoms therein, and geared sectors on said bottoms, adapted to be operated by said connecting rod.

4. In sanding boxes and in combination with tipping bottoms for the boxes, a bell-crank lever fulcrumed on the car and attached at one arm to a device for tripping the bottoms and having a socket in the other arm, and a removable tread adapted to bear in said

socket and be removed therefrom at will, substantially as described.

5. In a sanding box, the combination with tipping bottoms, of a connecting rod adapted to trip the bottoms, a bell-crank lever having one arm connected with said rod, a sleeve fixed on the car adjacent to the other arm of the lever and flared downwardly, and a removable tread adapted to bear on said other arm of the lever and guided in said sleeve, substantially as described.

6. In a sanding box, the combination of a removable tread, a downwardly flared sleeve fixed on the car and adapted to guide said tread, a bell-crank lever having one arm engaging the end of the tread and the other arm actuated by a spring and connected with a rod for operating the bottoms, substantially as described.

7. The combination, in a sanding box of a connecting rod adapted to operate the bottoms, a bell-crank lever having one arm connected with said rod and also actuating a spring, a tread adapted to engage the other arm of the lever and removably guided in a downwardly flaring sleeve, and a dog pivoted adjacent to the tread and adapted to engage the head thereof, substantially as described.

8. A sanding box made in two parts, each part forming one half of a body and of a downwardly projecting nozzle therefrom and being provided with flanges and bolt holes at the meeting faces for fastening the two parts together, and each of said parts also being provided with flanges at the upper end for securing the box to a car, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 27th day of January, 1893.

JOHN J. KENNELLY.

Witnesses:

ARTHUR W. GILBERT,
AUGUST KUHN.