

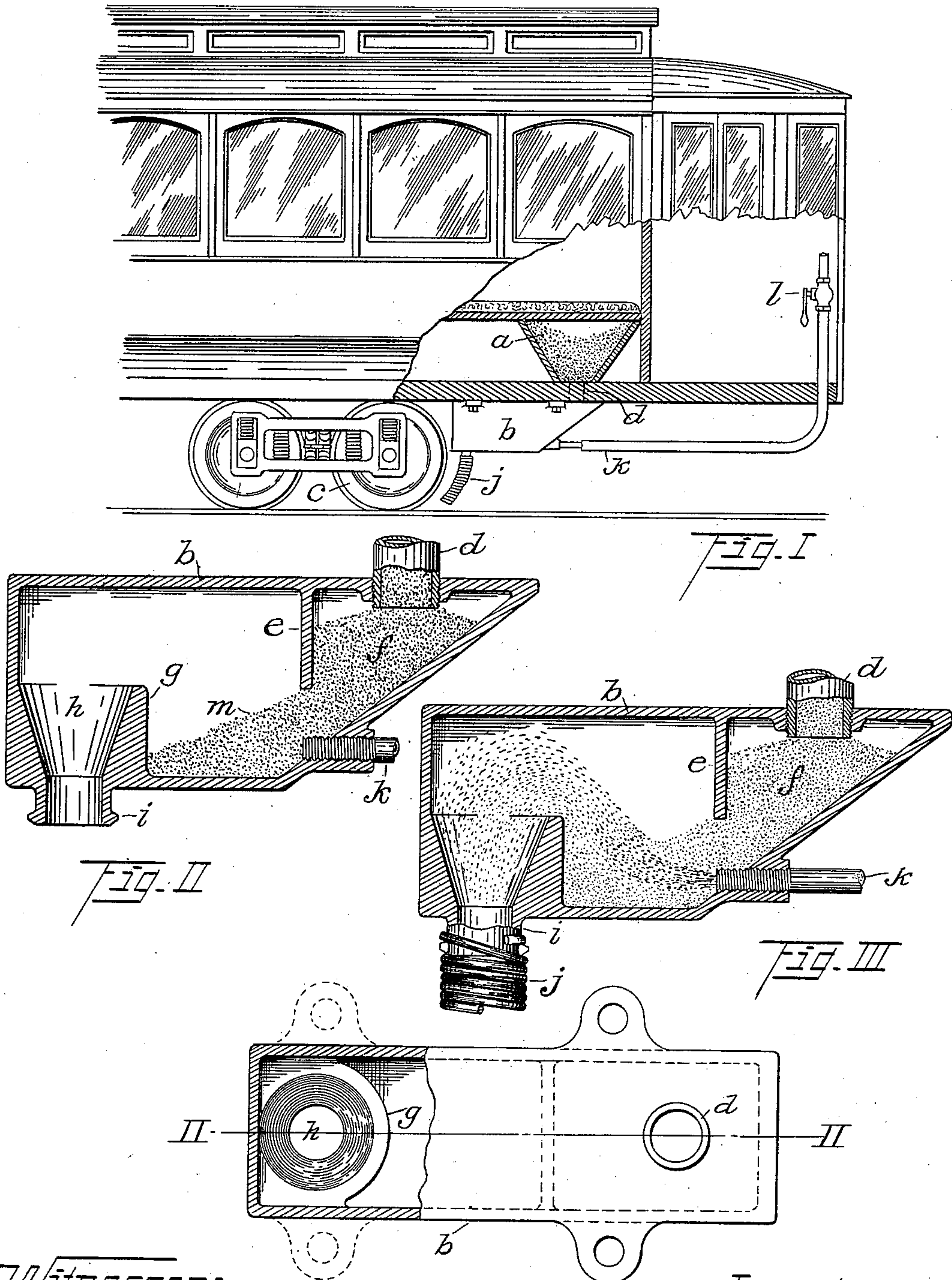
No. 682,150.

Patented Sept. 3, 1901.

C. B. NICHOLS.
TRACK SANDER.

(Application filed Jan. 25, 1901.)

(No Model.)



Witnesses:
C. G. Rice
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UNITED STATES PATENT OFFICE.

CHARLES B. NICHOLS, OF WESTPARK, OHIO, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE NICHOLS-LINTERN COMPANY, OF CLEVELAND, OHIO.

TRACK-SANDER.

SPECIFICATION forming part of Letters Patent No. 682,150, dated September 3, 1901.

Application filed January 25, 1901. Serial No. 44,700. (No model.)

To all whom it may concern:

Be it known that I, CHARLES B. NICHOLS, a citizen of the United States, residing at Westpark, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Track-Sanders, of which the following is a specification.

This invention relates to apparatus carried by motor-cars and locomotives for the purpose of flowing sand upon the track-rails; and the object thereof is to provide such an apparatus comprising a reservoir for sand and attachments separate and distinct therefrom for regulating the supply of sand to the track, said attachments being located in the most convenient or effective positions, irrespective of the position of the reservoir, except that said reservoir should be so placed in relation to the feeder-box that sand may run by gravity through a suitable conduit from the former into the latter.

A further object is to secure a positive and uniform distribution of sand to the track capable of almost instantaneous application and close regulation, together with such minor objects as will become apparent from the description and be set forth in the claims.

To these ends my invention consists in the novel features and arrangements hereinafter described and claimed, an embodiment thereof as applied to a motor-car being illustrated in the accompanying drawings, in which—

Figure I is a side elevation, partly in section, showing the application of the apparatus to a motor-car. Figs. II and III are sectional elevations of the feeder-box, taken on line II II of Fig. IV; and Fig. IV is a plan view, partly in section, of the same.

The reference-letter *a* indicates a reservoir for sand, which may be placed in any convenient part of the body of the car. A closed feeder-box *b* is secured to the under side of the car forward of the driving-wheel *c* and preferably as near said wheel as possible. A tube *d* connects the bottom of the reservoir *a* with the top of the forward end of the box *b* and serves to conduct sand by gravity from the reservoir into the said box. The forward end of the box *b* is inclined, as shown, so that the top of the box is longer than its bottom,

and a vertical rib or partition *e*, extending across the box and depending from the top thereof, forms, with the inclined end and the sides, a hopper *f*, which is supplied with sand from the reservoir by the pipe *d*. In the rear end of the box *b* and projecting some distance above its bottom is a hub or bench *g*, through which passes an outlet *h*, preferably of a funnel shape, as shown, terminating in a nozzle *i*, depending from the bottom of the box. Said nozzle is provided with means for attaching a pipe or a wire hose *j*, as shown, leading down into close proximity to the head of the track-rail, as plainly shown in Figs. I, II, and III. Extending horizontally into the box *b*, through the inclined front wall thereof near its bottom and screw-threaded or otherwise secured therein, is a small pipe *k*, which is connected with the compressed-air reservoir usually carried by motor-cars and locomotives for the purpose of operating brakes, &c., and said pipe is provided with a valve *l*, preferably of the quick-opening type, at a point in its length conveniently accessible to the driver of the car. Thus by reference to Fig. II it will be readily understood that sand entering the feeder-box through the conduit *d* flows down under the rib *e*, forming a layer of sand at *m*, resting upon the bottom and inclined end of the box covering the orifice of the air-pipe *k*, and its upper surface conforming to its natural slope, after which the hopper *f* fills up to the pipe *d*.

When it is desired to sand the track, the driver of the car opens the valve *l*, permitting the requisite volume of compressed air to flow through the pipe *k* into the box. The effect of the current of air, as shown in Fig. III, is to elevate and disintegrate the sand of the layer *m*, which after being carried upward and rearward falls into the funnel-shaped outlet *h* and thence down through the hose *j* to the track, being hastened in its descent by the current of air. It is evident that so long as the hopper *f* is filled with sand the weight thereof will continue to feed sand over the end of the air-pipe and also prevent air blowing up through the reservoir. By this means the particles of sand are thoroughly separated and distributed more uni-

formly to the track than is possible by the old methods, while the amount of sand distributed is easily regulated by the volume of compressed air admitted to the feeder-box.

5 Modifications may be made in the details of my invention, provided the principles of construction set forth respectively in the following claims are employed.

10 Therefore what I claim as new, and desire to secure by Letters Patent, is—

1. In a track-sanding apparatus, the combination with a sand-reservoir, a suitable conduit leading downward therefrom, and a closed box adapted to receive sand from said
15 conduit, of a substantially rectangular compartment in said box, means comprising a depending rib in and an inclined end of said box for holding sand and forming a layer thereof against said inclined end extending
20 into said compartment, a suitable outlet leading from the other end of said compartment, an air-pipe passing through the said inclined end of said box and opening under said layer of sand, and means for forcing a current of
25 air through said pipe, substantially as set forth.

2. In a track-sanding apparatus, the combination of a closed feeder-box adapted to receive sand from a reservoir comprising a
30 substantially rectangular compartment, and means comprising a depending rib in and an inclined end of said box for holding sand and forming a layer thereof against said inclined

end extending into said compartment, a funnel-shaped outlet leading downward from the
35 other end of said compartment adapted to support a conductor for conveying sand to the track, an air-pipe passing through the inclined end of said box opening under said layer of sand, and means for forcing a current of air through said pipe, substantially as
40 set forth.

3. In a track-sanding apparatus, the combination with a sand-reservoir, a closed feeder-box thereunder and means for supplying said
45 box with sand from said reservoir, of a lateral partition in said box and an inclined rear end thereof forming a wedge-shaped hopper communicating with said reservoir, a substantially rectangular compartment forward of
50 said partition communicating with said hopper through a rectangular aperture under said partition, an outlet projecting above the bottom of the forward end of said compartment provided with means for attaching a
55 suitable conductor thereto, and means for injecting an air-blast through said inclined end into said compartment, substantially as set forth.

In testimony whereof I affix my signature, 60
in the presence of two subscribing witnesses,
at Cleveland, Ohio, January 23, 1901.

CHARLES B. NICHOLS.

Witnesses:

C. G. PRICE,
WM. LINTERN.