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TRACK SANDER.

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967,309.

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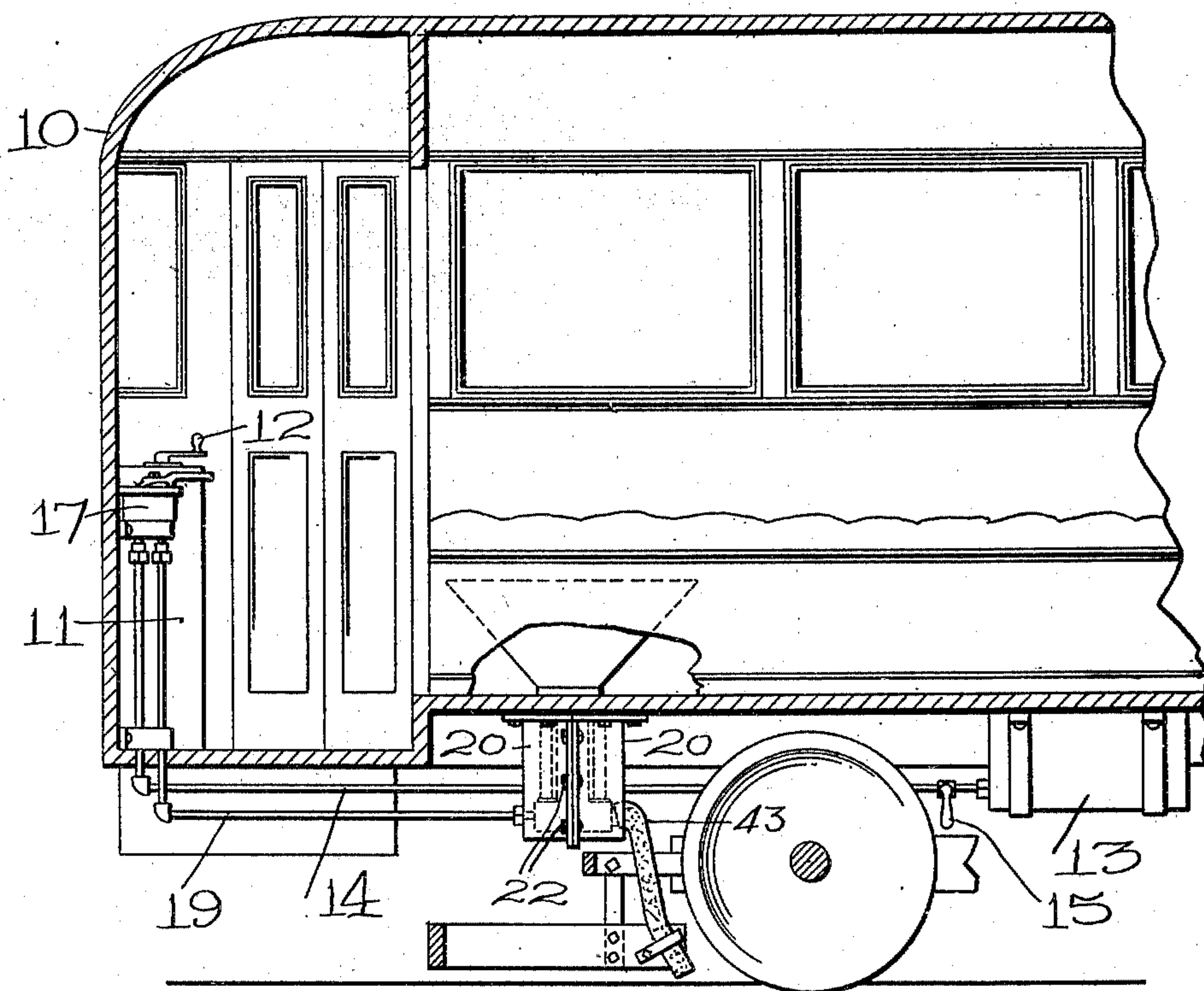


Fig. 1

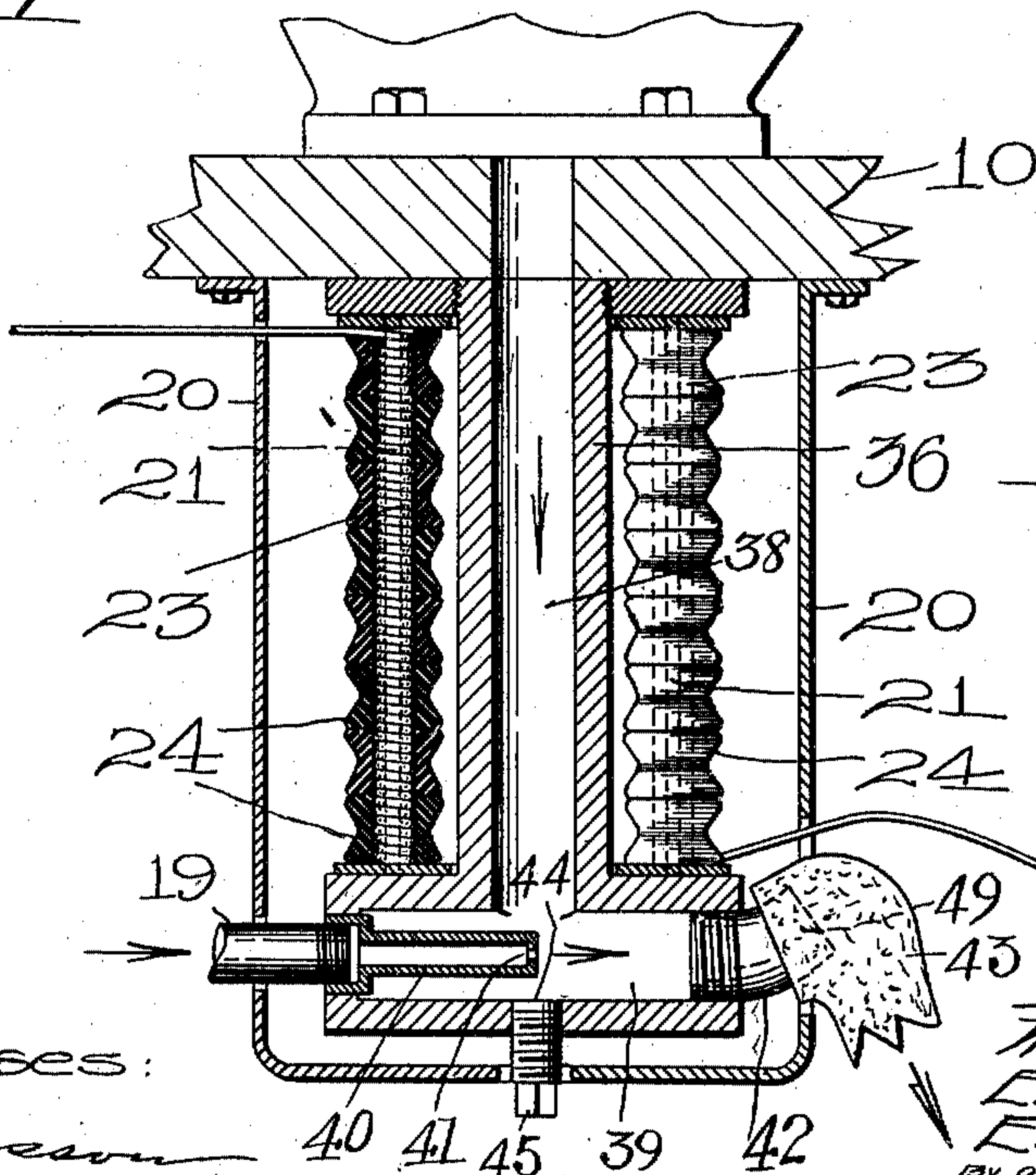


Fig. 2.

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UNITED STATES PATENT OFFICE.

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TRACK-SANDER.

967,309.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, WILLIAM J. BEATTIE, ERNEST W. BOYNTON, and EDWIN B. CHURCHILL, citizens of the United States, all residing at Fitchburg, in the county of Worcester and State of Massachusetts, have invented a new and useful Track-Sander, of which the following is a specification.

This invention relates to a sanding device adapted to be used on street and other cars, locomotives, and the like.

It has been found in practice that the sand which is used, being somewhat wet freezes up in winter and also cakes up at all seasons. The wheels also throw water against the sander which adds to the trouble.

The principal object of this invention is to provide simple and practicable means whereby the freezing of the sand can be prevented and whereby the sand can be thawed out if it does freeze, and also to provide means whereby the moisture can be dried out of the sand, thus preventing the caking up thereof as well as the freezing.

Further objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings in which—

Figure 1 is a longitudinal central sectional view of a portion of an electric street car showing one embodiment of this invention, and Fig. 2 is a similar sectional view on an enlarged scale of the sanding device proper.

Although the invention is capable of general use it is shown herein as applied to a form of sanding device shown and described in our previous Patent No. 950,889 granted March 1st, 1910.

Although the invention is adapted for use on various kinds of locomotives, cars, or the like, it is particularly adapted for electric street cars, and is shown in that connection in the drawings which illustrate a street car 10 having a controller 11 provided with a handle 12 in the usual form. Mounted on the car also is a compressed air reservoir 13, having a pipe 14 controlled by a cut-off valve 15 and connected with an inlet port in a valve casing 17. This casing is also provided with an outlet port communicating with the other branch 19 of the compressed air pipe.

The portion 19 of the compressed air pipe enters an enlargement 35 on a vertical column 36 which is secured to the bottom of the

sand hopper 37. This column has an unobstructed vertical passage 38 therethrough communicating with the interior of the hopper and with a horizontal passage 39 at the bottom of it. The pipe 19 enters this passage 39 and it preferably is provided with a nozzle 40 having a discharge opening 41 in the end located under the center of the passage 38. This nozzle is spaced from the walls of the passage 39 and from its position it is obvious that the sand will be discharged by the compressed air in a continuous stream into a discharge pipe 42 which extends from the opposite end of the passage 39. This pipe 42 is bent upwardly at its end 49 to prevent accidental leakage of sand and is connected with a hose 43 for discharging the sand on the track, this hose being held in any desired position at a point near the wheel. The bottom of the passage 39 is provided with a clean-out passage 44 adapted to be closed by a removable plug 45.

The parts above described are all shown in our above mentioned patent. The present improvement is shown as applied thereto in a two part casing 20 on the outside of the column 36. In this casing are a plurality of vertical rods 21 arranged around the column in a circle. Half of these rods are mounted on each half of the casing so that the casing can be opened and removed very easily by loosening the bolts 22. Wound on these rods are heating coils 23. These heating coils are connected up with each other in series or parallel as required and are connected with the line in any desired way so as to introduce a current into the coils for heating purposes, any convenient form and location of switches being employed. One terminal preferably is connected with the trolley and the other grounded. On each of the heating coils are located a plurality of series of insulating washers 24 formed of any insulating composition such as clay, porcelain, or asbestos mixtures. It will be seen that by this simple expedient which can be provided for without modifying the structure of the particular type of sander shown in our previous patent, the sand can be heated and then dried if desired, and the freezing of the same can be prevented in a very simple way. It will be obvious also that the use of the casing is a feature of some importance as it not only protects the insulation of the heating elements, but there

is a dead air space between the heating elements and the casing which adds to the efficiency of the former without materially increasing the expense.

5 It will be understood, of course, that each car can be provided with two or more of these devices as desired, and that they can be located in many other positions than that shown. We are aware also that the inven-
10 tion can be adapted for use on many other kinds of cars, locomotives, and the like than that illustrated in the drawings, and that many modifications can be made in the details of construction without departing
15 from the scope of the invention as expressed in the claims. Therefore we do not wish to be limited to all the details of construction or the particular application shown, but

What we do claim is:—

20 1. In a sanding device, the combination of a hopper having a vertical passage extending downwardly at the bottom thereof,

means at the bottom of said passage for discharging sand therefrom, and an electrical heating device surrounding said pas- 25 sage and extending from the hopper to the means for discharging the sand.

2. In a sanding device, the combination of a hopper having a vertical passage ex- 30 tending down therefrom, a plurality of vertical rods extending along the vertical passage, heating coils arranged on said rods, and insulating washers surrounding each heating coil and the rod therein.

In testimony whereof we have hereunto 35 set our hands, in the presence of two subscribing witnesses.

WILLIAM J. BEATTIE.
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Witnesses:

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