(No Model.)

W. G. MIDDLETON.

RAILWAY TRACK SANDER.

No. 524,783. Patented Aug. 21, 1894.

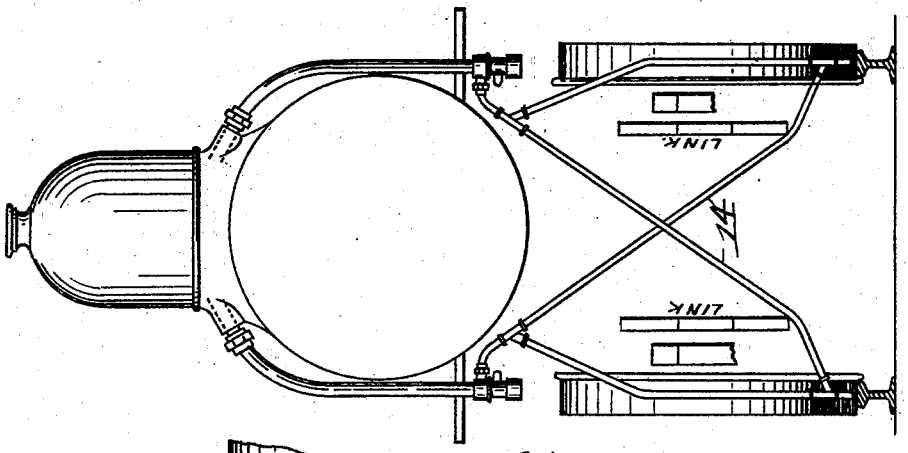

Fig. 1.

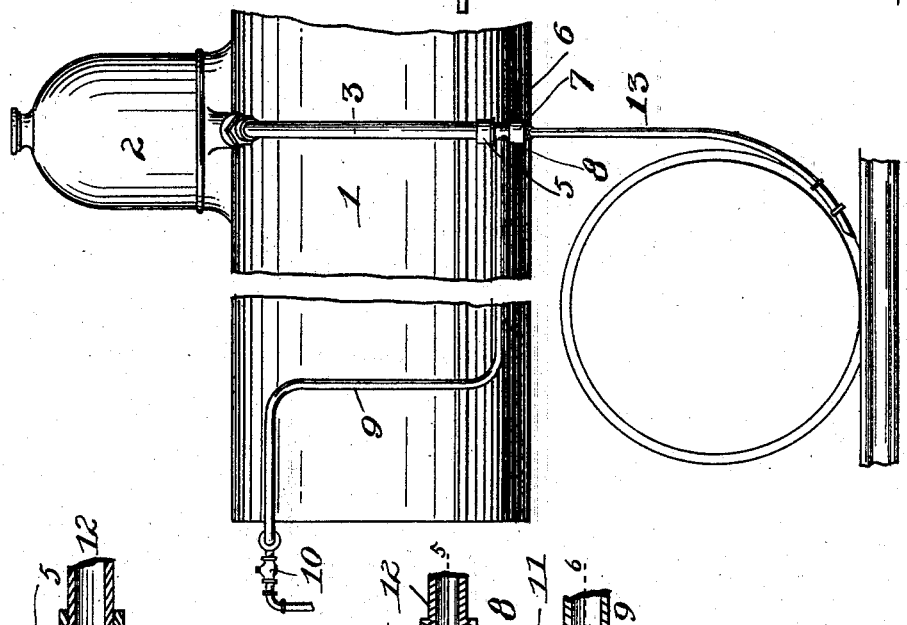

Fig. 2.

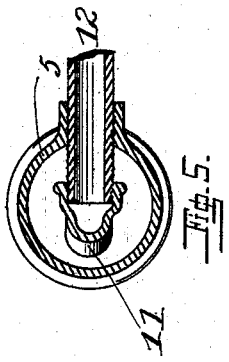

Fig. 5.

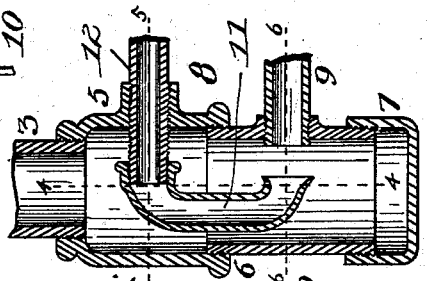

Fig. 3.

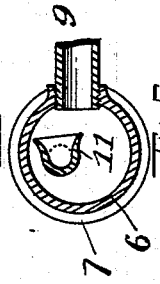

Fig. 6.

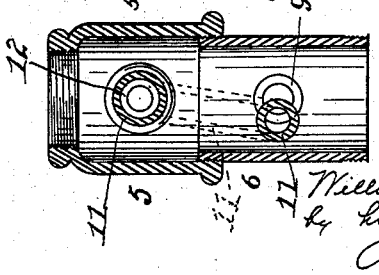

Fig. 4.

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UNITED STATES PATENT OFFICE.

WILLIAM GREEN MIDDLETON, OF ATLANTA, GEORGIA.

RAILWAY-TRACK SANDER.

SPECIFICATION forming part of Letters Patent No. 524,783, dated August 21, 1894.

Application filed April 20, 1894. Serial No. 508,358. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM GREEN MIDDLETON, a citizen of the United States of America, and a resident of Atlanta, in the county of Fulton and State of Georgia, have made a certain new and useful Railway-Track Sander; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

This invention is illustrated in the accompanying drawings, in which—

Figure 1 is an end elevation of a boiler and driving wheels thereunder, showing this device in place. Fig. 2 is a side elevation of the boiler further showing said device. Fig. 3 is a vertical section through the sand ejector. Fig. 4 is a section on the line 4—4, Fig. 3. Figs. 5 and 6 are sections respectively on the lines 5—5 and 6—6, Fig. 3, the three latter named figures being explanatory of Fig. 3.

In the figures like reference characters are uniformly employed in the designation of corresponding elements of construction in all the views.

1 is the boiler, 2 the sand-box thereof, and 3 is the ordinary pipe for discharging sand from the box 2.

On the lower end of the pipe 3 is screwed a T 5 which in connection with a T 6 and a cap 7, forms a casing or sand receptacle 8. Into the side of this receptacle 8 is introduced a pipe 9 which is connected with the air-system at any convenient place and is cut by a valve 10 which should be inside the cab and within easy reach of the engineer or fireman so that pressure of air may be turned on at any time it is desired to sand the track. Obviously this pipe may be connected to a point of the boiler where dry steam may be had and steam be introduced, but owing to the dampening of the sand by steam, air is deemed the best pressure-agent for the purpose and is preferable to use, being handy on all locomotives. The pipes 3 and the other parts of this device may be duplicated on either side of the locomotive, and are so shown in the drawings but I do not confine myself to this construction. If duplicated separate valves in each side of the pipe 9 should be employed controlling thus each side of the sanding device, and the valve 10 will then be employed to cut off and turn on air to both.

A pipe 12 is introduced into the casing 8 through the branch of the T 5 and a U-connection 11 is secured to the inner end thereof so that its open end will extend to near the opening therein of the pipe 9, but is offset substantially one-half its diameter from said pipe 9, and the opening may be flared if desired. This pipe 12 is connected to a pipe 13 which extends to a position near the track and just ahead of the driving wheel it is desired it should sand.

In order to interconnect both sides of this device at the outflow crossed pipes 14 may be employed being connected at a point of the pipes 13 whereat there will be a minimum of deflection and hence of friction in the output of sand. These pipes 14 being crossed X-wise also form braces against lateral pendulous movement of the pipes 13, but this not more than excess of caution, as these pipes 13 will otherwise be firmly secured to adjacent parts of the locomotive frame-work.

If a pebble should accidentally stop one of the pipes 13 the feed of sand to that side of the device would be kept up through the pipe 14 correspondingly connected and the sanding thus be unimpeded on both tracks.

In this device owing to the offset of the air-pipe and the efflux-pipe there is a cyclonic motion of the sand in the casing 8 which keeps it in suspension and allows all pebbles which are sometimes carelessly left in the sand to fall to the bottom, wherefrom they may be removed by taking off the cap 7, and allowing the same to fall out, which may be readily done if necessary from the running board of the locomotive without stopping.

This device may be attached to the locomotive as at present constructed without a single change of construction therein, the parts all avoiding the running-gear.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a track sanding device, a casing having a cylindrical chamber therein, a sand-pipe leading from the sand-box to the top of said

chamber, a discharge pipe running to a position near the track and led into said chamber so as to lie axially thereof therein and provided on the end within said chamber with a sidewise extending nipple, and an air-induction pipe leading from an air reservoir into the side of said chamber opposite the opening of said nipple therein; the end of said air-pipe being offset from the said nipple in such a manner that part of the air will be directed into the same and part caused to circulate in vortical currents within said chamber, substantially as and for the purposes set forth.

2. A sand box and a pipe leading therefrom, in combination with a T-fitting screwed on the lower end of said pipe, a second T-fitting screwed to said T-fitting, a cap screwed onto the lower end of the second named T-fitting, a pipe entering the third branch of each T-fitting, a U-connection screwed to one of said pipes within the T-fitting and extending into the other T-fitting to a position exposing its upper end opposite the embouchure of the other pipe, and an air-supply and discharge pipe connected to said pipes respectively, substantially as and for the purpose specified.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

WILLIAM GREEN MIDDLETON.

Witnesses:

ALBERT P. WOOD,

EDWD. P. WOOD.