

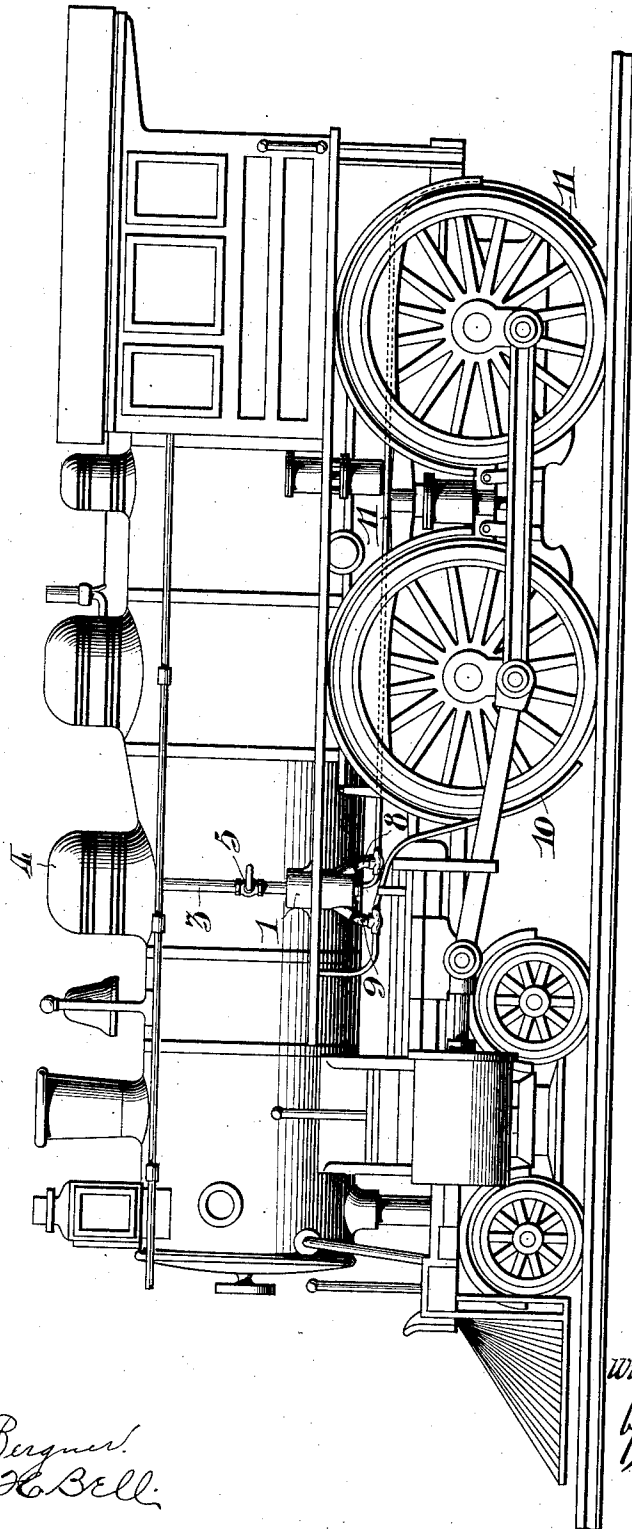
W. H. MATTHEWS, JR.
SAND FEEDING DEVICE.
APPLICATION FILED MAY 11, 1911.

1,016,509.

Patented Feb. 6, 1912.

4 SHEETS—SHEET 1.

FIG 1.



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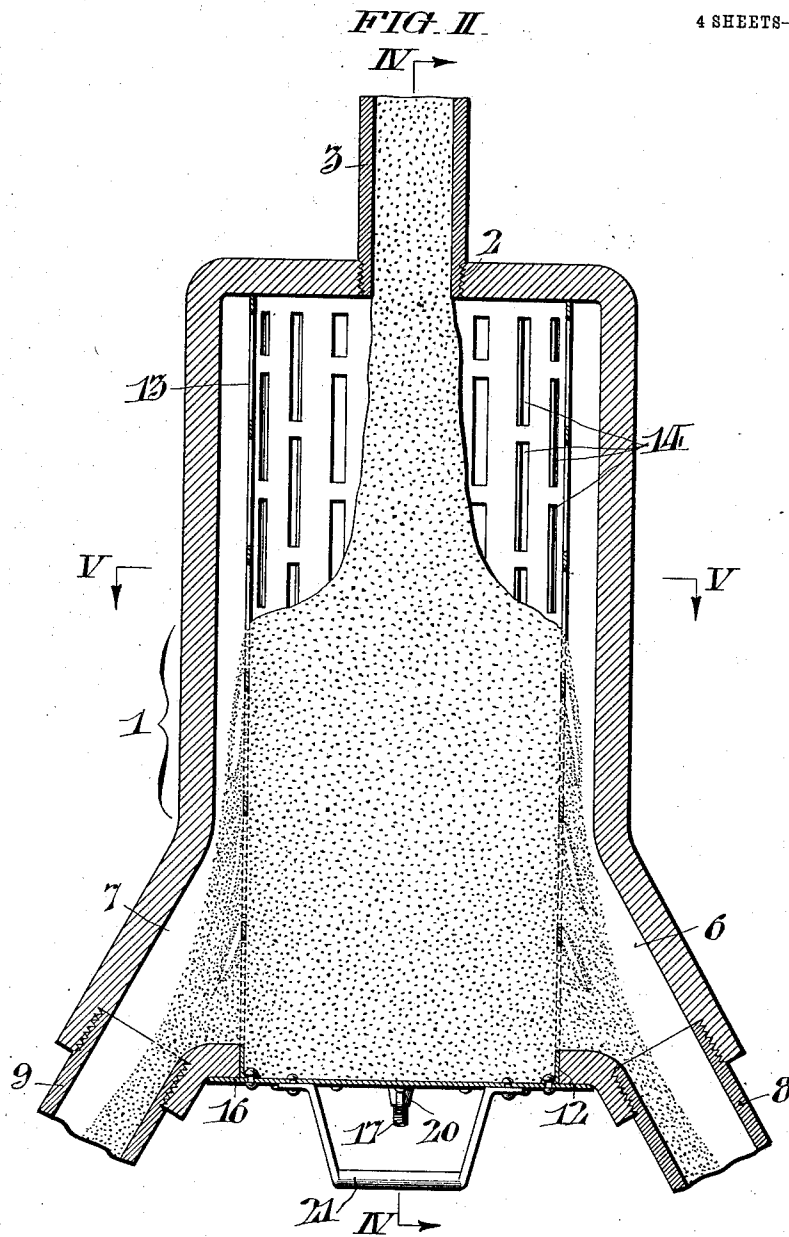
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4 SHEETS—SHEET 2.



Witnesses
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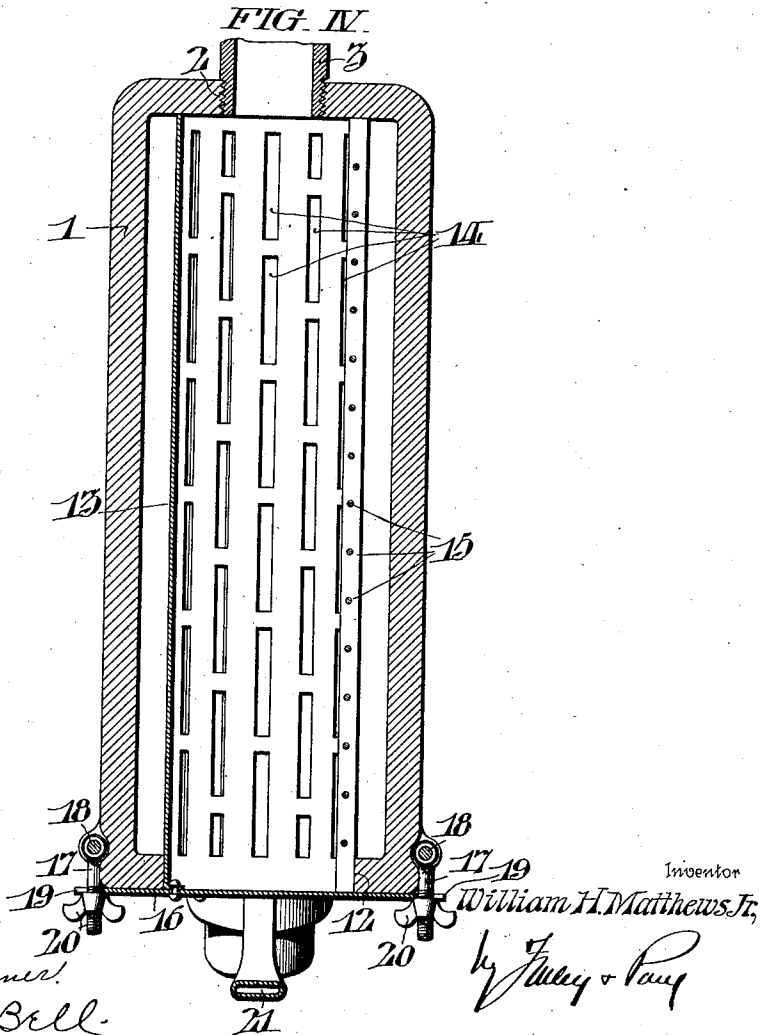
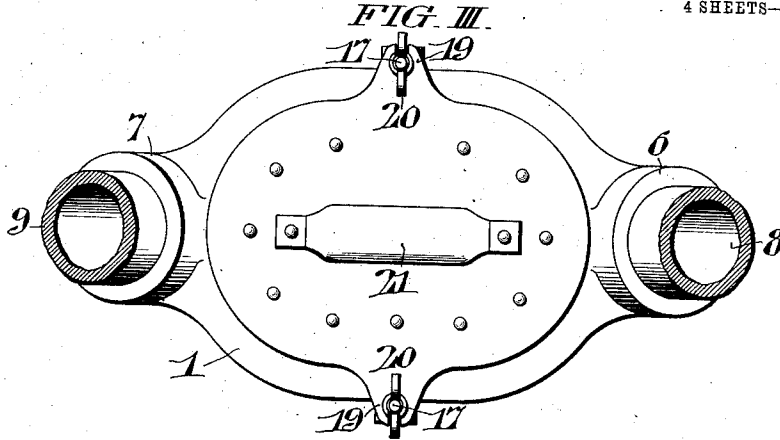
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4 SHEETS—SHEET 3.



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4 SHEETS—SHEET 4.

FIG. V.

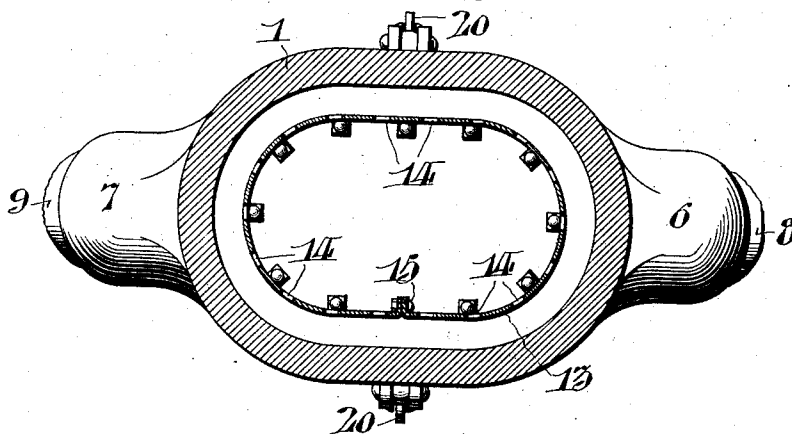
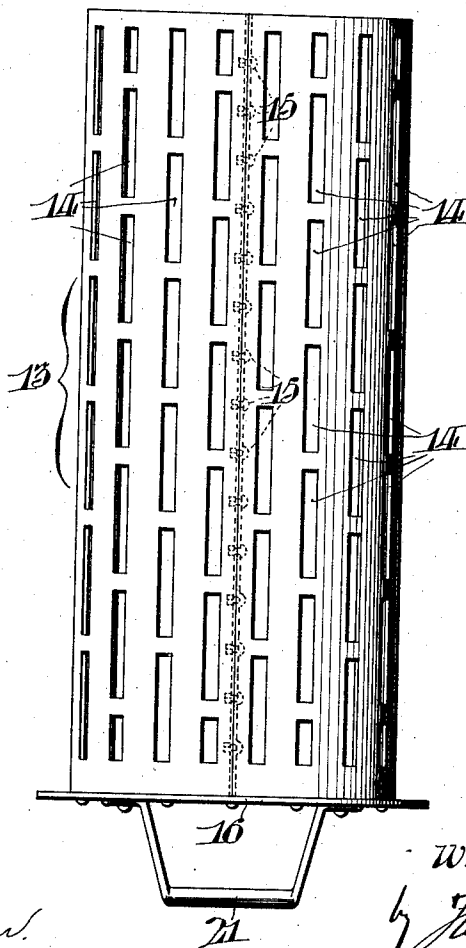


FIG. VI.



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UNITED STATES PATENT OFFICE.

WILLIAM H. MATTHEWS, JR., OF PHILADELPHIA, PENNSYLVANIA.

SAND-FEEDING DEVICE.

1,016,509.

Specification of Letters Patent.

Patented Feb. 6, 1912.

Application filed May 11, 1911. Serial No. 626,528.

To all whom it may concern:

Be it known that I, WILLIAM H. MATTHEWS, JR., of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Sand-Feeding Devices, whereof the following is a specification, reference being had to the accompanying drawings.

10 The invention relates to devices for feeding sand and more especially to devices for separating the dry sand from the wet sand, so as to prevent the clogging of the air sanders or other valves used or the pipes leading to the track to be sanded.

15 An object of the invention is to provide a separating device for the sand, which shall be so constructed as to cause the dry sand to separate from the wet portions, and also to cause the dry sand as it is discharged from the sand-separating and feeding device to break up the wet portions of the sand, and carry the same along with the discharge or flow of the dry sand.

20 A further object of the invention is to provide a dry sand separating device which may be readily cleaned or emptied of the wet sand, which may lodge therein.

25 These and other objects will in part be obvious, and will in part be hereinafter more fully described.

30 In the drawings which show by way of illustration one embodiment of the invention, Figure I, is a view showing a locomotive in side elevation, with my improved sanding device applied thereto. Fig. II, is a vertical sectional view through the improved dry sand separating device. Fig. III, is a bottom plan view of the same. 35 Fig. IV, is a sectional view on the line IV, IV, of Fig. II. Fig. V, is a sectional view on the line V, V, of Fig. II, and Fig. VI, is a side elevation of the screen for separating the dry sand from the wet sand.

40 The dry sand separating device consists of a casing 1, which is preferably formed of annealed cast iron. This receptacle is approximately elliptical in cross section, as clearly shown in Fig. V. An opening 2, is formed at the top of the casing 1, into which is threaded an inlet or receiving pipe 3. This receiving pipe 3, extends to a sand dome 4, when the device is applied to a locomotive.

45 When my device is applied to street cars, or other moving vehicles, the inlet or re-

ceiving pipe 3, is connected to any suitable storage receptacle for the sand. The inlet pipe 3, is preferably provided with a valve 5, whereby said pipe may be closed when it is desired to clean the dry sand separating receptacle. 60

As herein shown, I have provided the lower part of the casing 1, with two outlets 6, and 7. These outlets are connected with pipes 8, and 9. Pipes 8, and 9, lead to chambers from which the sand is forced by compressed air through the pipes 10, and 11, which respectively lead to the front and rear drivers of the locomotive. 70

The sand is led from the storage receptacle 4, through the receiving pipe 3, into the top of the casing 1. The casing 1, is formed with an opening 12, at the bottom thereof. The outlets 6, and 7, project from the casing, so that the opening 12, in the bottom of the casing is only slightly smaller than the casing in cross sectional area. 75

Located within the casing is a screen 13. This screen is shaped to conform to the casing, and fits within the opening 12, in the base of the casing. The screen also extends from the base of the casing to the upper wall thereof. When the screen is in place, the side walls thereof are spaced a slight distance from the side walls of the casing 1. The side walls of the screen 13, are formed with vertical slots 14, which are arranged in lines extending from the bottom of the screen to the upper end thereof. The screen is formed by bending a flat sheet metal plate into proper shape and joining the edges thereof by a small bolt 15. The screen at its lower end is riveted to a bottom plate 16, which projects beyond the side edges of the screen, and when the same is placed in the casing 1, the bottom engages and overlaps the bottom portion of the casing. A suitable rubber or leather gasket may be used if desired, to form a tight joint between the bottom of the screen and the bottom of the casing. The screen is held in place in the casing by suitable bolts 17, which are pivoted at 18, to the casing and the shanks of the bolts are adapted to engage slotted ears 19, formed on the bottom of a screen, and winged nuts 20, on the bolts will clamp the bottom portion of the screen against the casing. A handle 21, is riveted to the bottom of the screen for the purpose of withdrawing the screen from the casing, when desired. The sand passing from the storage recep- 110

tacle to the inlet 3, falls into the screen and piles up therein. The dry sand will flow to the outer walls of the screen, and through the vertical slots therein, while the wet portions of sand will remain within the screen. As the dry sand falls through the slots, it will act upon any wet portions of sand adjacent the slots, and gradually cause minute particles of the wet or damp sand to be carried off with the dry sand. Furthermore, the friction of this dry sand against the wet sand held within the screen, will absorb considerable of the moisture in the wet or damp sand. The dry sand, therefore, passing from the screen will remove a considerable quantity of the wet or damp sand from the screen. The area of the slots in the screen are so arranged and sized as to permit the screen to become almost full of the wet or damp sand before the efficiency of the device is in any way destroyed. In the event of the device becoming clogged with the wet or damp sand, by reason of an unusually large quantity thereof entering into the separating device before the dry sand flowing from the screen has had time to remove the dampness from the wet sand, or remove the wet sand in the manner above stated, the screen may be easily removed by closing the valve 5, loosening the two winged nuts 20, and withdrawing the screen from the casing, through the aid of the handle 21. As soon as the screen is emptied it may be quickly returned to its normal position within the casing.

It will be obvious that by my improved construction no tools are necessary to clear the device of wet or damp sand, and in the cleaning of the receptacle, little or no sand drops on any of the bearings of the machinery.

By my improved construction, I am able to supply a sufficient amount of sand by gravity, without over-sanding the rails, for the reason that the dry sand separating device permits a pipe of much smaller diameter than would be necessary to convey the sand to the rail, wherein no means is provided for separating the damp or wet sand from the dry sand. The inlet pipe, of course, should be sufficiently large to permit the sand to flow freely to the separating device, without any possibility of becoming clogged with wet or damp sand.

It is obvious that minor changes in the details of construction may be made, without departing from the spirit of the invention, as set forth in the appended claims.

Having thus described my invention, I claim:—

1. A sand-distributing device including in combination, a vertical casing having a receiving inlet and a discharge outlet, and a separating screen within said casing having vertical walls with vertical slots formed therein.

2. A sand-distributing device including in combination, a vertical casing having a receiving inlet and a discharge outlet, a separating screen located within the casing and spaced from the side walls thereof, said screen having vertical slots formed therein.

3. A sand-distributing device including in combination, a vertical casing having an inlet at its upper end located centrally thereof, outlets at its lower end located at the sides thereof, a separating screen located within the casing and spaced from the side walls thereof, said screen having vertical slots formed therein, and means whereby said screen may be removed from the casing.

4. A sand-distributing device including in combination, a vertical casing having an inlet at its upper end located centrally thereof, outlets at its lower end located at the sides thereof, said casing having a central opening in the bottom thereof, a screen of slightly smaller area in cross section than said casing and fitting said opening in the bottom of the casing, said screen having a bottom adapted to engage the bottom of the casing, and means for locking said bottom to the bottom of the casing, said screen having vertical slots formed therein.

5. A sanding device including in combination, a vertical casing, an inlet pipe leading to the casing at the upper end thereof, and centrally thereof, a valve in said inlet pipe, outlet pipes at the lower end of said casing at the sides thereof, said casing having an opening in its bottom, a screen adapted to fit within said opening and extending to the upper wall of the casing, vertical slots formed in said screen, said screen having a bottom adapted to engage the bottom of the casing, locking bolts for holding the screen in the casing, and a handle for removing the screen from the casing.

In testimony whereof, I have hereunto signed my name at Philadelphia, Pennsylvania, this ninth day of May 1911.

WILLIAM H. MATTHEWS, JR.

Witnesses:

JAMES H. BELL,
E. L. FULLERTON.