No. 648,788. Patented May 1, 1900.

W. H. PRENDERGAST.

TRACK SANDING DEVICE.

(Application filed Dec. 18, 1899.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

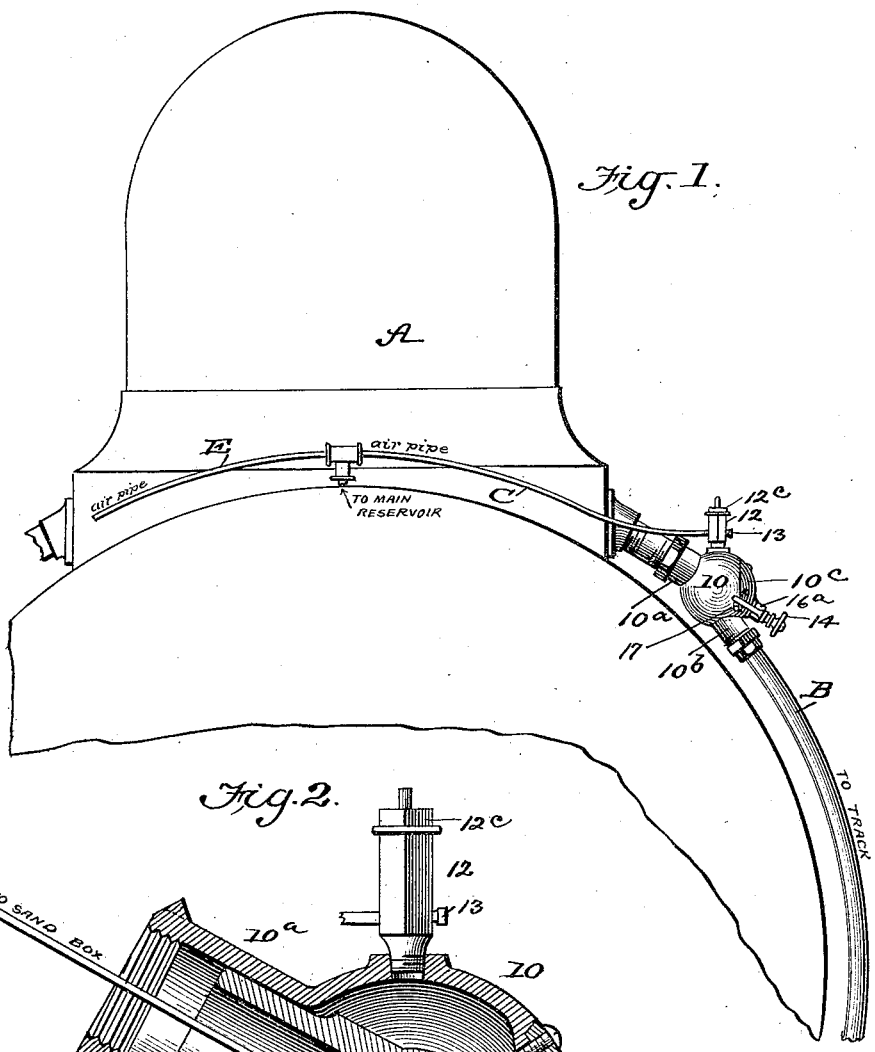
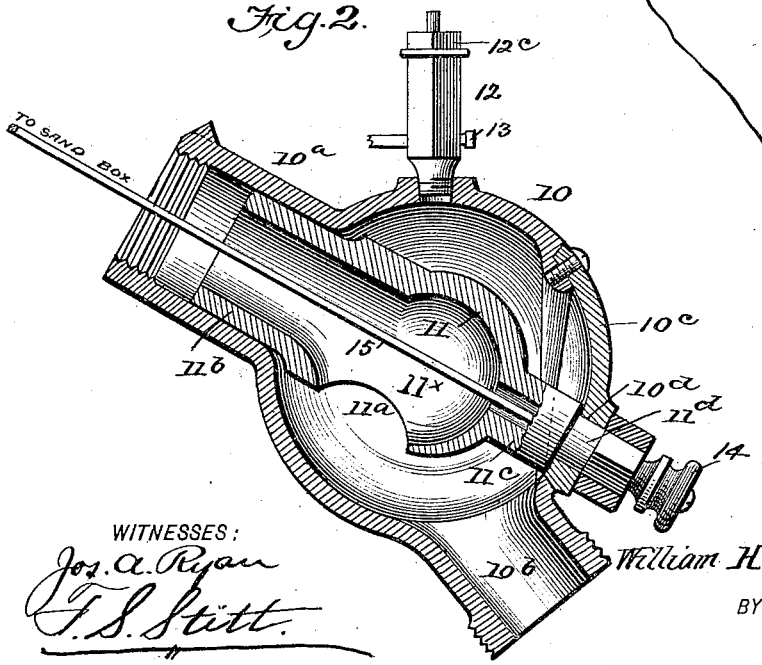


Fig. 2.



WITNESSES:

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Fig. 4.

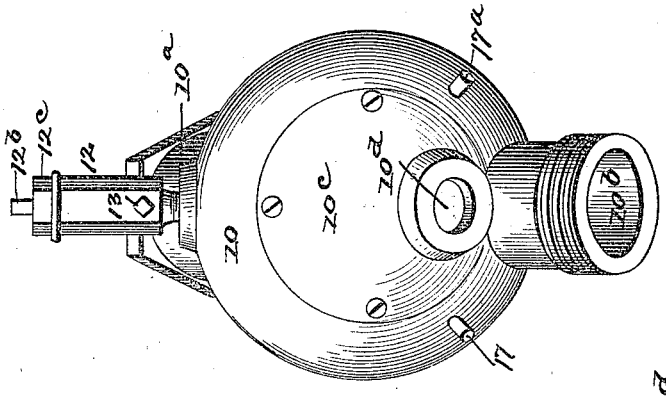


Fig. 6.

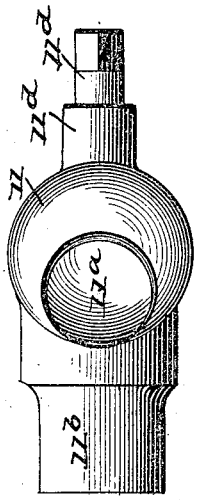


Fig. 5.

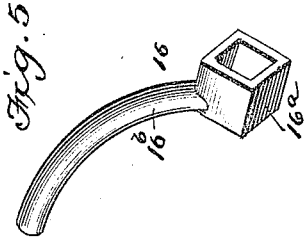
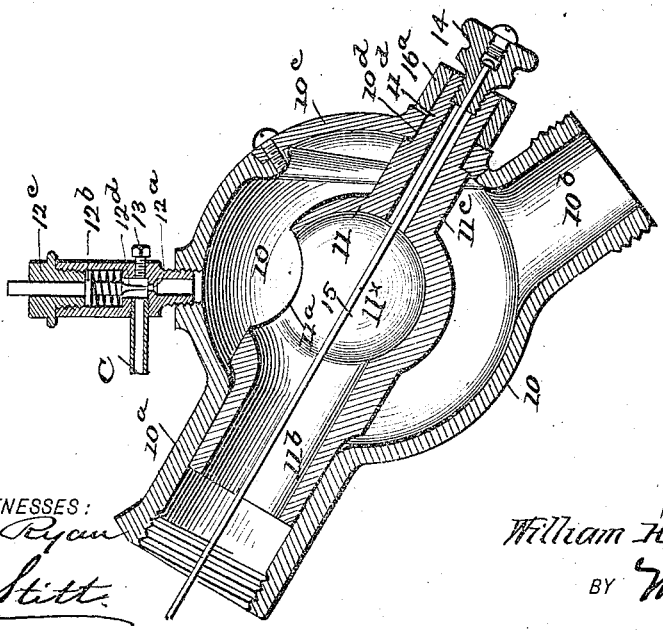


Fig. 3.



WITNESSES:
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UNITED STATES PATENT OFFICE.

WILLIAM H. PRENDERGAST, OF SAVANNAH, GEORGIA, ASSIGNOR OF ONE-HALF TO CHARLES D. KLINE, OF SAME PLACE.

TRACK-SANDING DEVICE.

SPECIFICATION forming part of Letters Patent No. 648,788, dated May 1, 1900.

Application filed December 18, 1899. Serial No. 740,700. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. PRENDERGAST, of Savannah, in the county of Chatham and State of Georgia, have invented a new and useful Improvement in Track-Sanding Devices, of which the following is a specification.

My invention relates to apparatus for feeding sand to the rails under a locomotive in order to prevent the slipping of the wheels; and it has for its object a device of this character which will be sure and efficient in operation, one which can be readily transformed from a pneumatically-operated sander to a straight-way device in case the pneumatic apparatus should get out of order, and one in which the air-ducts and sand-cup can easily be kept free from being clogged up.

The invention consists in certain details of construction and arrangement and combination of the parts, which I shall hereinafter specifically describe and claim.

Reference is to be had to the accompanying drawings, forming part of this specification, in which like characters of reference indicate corresponding parts in all the views.

Figure 1 is an elevation of a portion of a locomotive with one of my improved sanding devices attached. Fig. 2 is a sectional view of the sand trap and cup with parts in elevation, the cup being shown in inverted position. Fig. 3 is a sectional view of the same with the sand-cup in position to receive a jet of air. Fig. 4 is an elevation of the sand-trap and air-jet casing. Fig. 5 is a perspective view of a lever used to invert the sand-cup, and Fig. 6 is a plan view of the sand-cup shown detached.

My improved sanding device consists of a hollow approximately-spherical casing 10, which serves as the sand-trap and is formed with an upper tubular arm or extension 10^a, secured by means of a pipe-nipple to the lower side of the sand-box A, and a lower arm or extension 10^b, in which the delivery-pipe B, leading to the rail, is secured. The casing 10 is provided with a removable cap-section 10^c, secured thereon by machine-screws or other suitable fastenings, and through the opening formed by the removal of said section is inserted my improved sand-valve, which is in the form of a spherical cup 11, formed with a body portion which is approximately spherical and is formed with a spherical concavity or pocket 11^x, having a mouth 11^a and a tubular trunnion or axis 11^b, fitted snugly in the upper arm 10^a of the casing, communication being thus established through the cup between the interior of the sand-box and the casing and delivery-pipe. The cup 11 is also formed with an axially-opposite tubular trunnion 11^c, over which the section 10 is fitted, the latter being formed with an opening 10^d, through which a reduced extension 11^d of the trunnion 11^c projects. In its normal position the said cup 11 has its mouth 11^a at the top, and an air-jet casing 12 is secured, preferably by screw-thread engagement, in the casing 10 and extends at oblique angles to the axis of the sand-cup 11, with its inner end directly opposite the mouth 11^a. The jet-casing 12 has a longitudinal opening extending therethrough and opposite lateral openings leading into the longitudinal opening, the latter being counterbored above such lateral openings and having inserted therein an upwardly spring-pressed valve 12^b; working in a bushing 12^c, screwed into the upper end of the jet-casing. The valve 12^b is formed with a cleaning-point 12^d at its lower end, adapted to pass through the orifice 12^a whenever the valve is manually depressed in order to keep the said orifice clean.

Air is injected through the jet-casing by means of a branch air-pipe C, which has one end screwed into one of the lateral openings in the jet-casing 12 and is connected with a main air-reservoir (not shown) by a main air-pipe D. There is also connected to the main air-pipe another branch pipe E, leading to a sanding device on the other side of the sand-box, which being similar to the one herein described I have not deemed it necessary to show.

13 designates a plug fitted in the lateral opening in the jet-casing opposite the branch air-pipe C, so that the said pipe may be blown out when desired to remove scale or the like.

In the ordinary operation of my device a jet of air (or steam) is injected through the main pipe D under the control of the engineer into the branch pipes and thence through the

air-jet casing 12 into the sand-cup 11, which operation raises the sand from the cup in a cloud and sends it through the delivery-pipe B to the rail.

A nut 14 screws into the extension 11^d of the cup-trunnion 11^c, and through this nut passes a wire rod 15, which extends from the nut up into the sand-box and is vibrated by the movement of the locomotive, thereby keeping the sand in the passage leading to the cup always loose.

For the purpose of transforming the pneumatic sanding apparatus described above into a straightway sander on account of a breakage in the air system and for the purpose of emptying the sand-cup 11 to clean it I provide a lever 16, which consists of a polygonal head 16^a, inserted over a correspondingly-shaped portion of the trunnion extension 11^d, and a curved handle 16^b, by which it may be operated, to turn the sand-cup upside down for the purposes just mentioned above. The nut 14 holds the lever in place, and the latter is limited in its movement by stops 17 17^a, formed on the casing 10.

The inverted position of the sand-cup is shown in Fig. 2.

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

1. In a track-sanding device, a hollow casing having a tubular extension forming an inlet for the sand, a sand-cup having a trunnion fitted in said inlet, said cup being formed with an upwardly-extending mouth and an opening leading therefrom through the said trunnion, and an air-injecting device in said casing directly opposite the mouth of the cup, as set forth.

2. In a track-sanding device, a spherical casing arranged for connection to a sand-box, a sand-cup in said casing having a spherical body portion spaced from the casing and formed with a spherical concavity having a mouth, and an air-injecting device in said casing and pointing radially toward the mouth of said concavity, as set forth.

3. In a track-sanding device, a casing having a tubular extension by which it is connected to a sand-box and an opening opposite said extension, a sand-cup having a hollow trunnion fitted in said tubular extension and an opposite trunnion fitted in said opening, the mouth of the cup normally opening upwardly into the casing and communicating with the hollow trunnion, and an air-jet in said casing and pointing toward the mouth of the cup in a direction at oblique angles to the axis of the latter, as set forth.

4. In a track-sanding apparatus, a spherical casing formed with tubular extensions one of which is arranged for connection with a sand-box and the other is adapted for attachment to a delivery-pipe, and a spherical sand-cup having trunnions by which it is rotatably held in the casing, one of the trunnions being hollow and fitted in that extension of the casing which is arranged for connection with a sand-box, the cup being further provided with a mouth communicating with the hollow trunnion and normally placed with the mouth upward, means for injecting air into the upper part of the casing against the upwardly-extending mouth, and means for inverting said cup, as set forth.

5. In a track-sanding device, a casing or trap having a tubular extension arranged at an oblique angle to the vertical and a sand-cup having a sand-pocket or concavity formed with a mouth, said cup being further provided with a trunnion fitting in said extension, said trunnion being formed with an opening extending axially therethrough and establishing communication between the extension and the concavity, whereby the sand will be supplied to the concavity through the trunnion, as set forth.

6. In a track-sanding device, a sand-trap, an air-jet casing inserted in said trap and formed with an air-orifice, and a spring-pressed cleaning device fitted in said air-jet casing, said cleaning device having a portion projecting outside the said casing whereby the device may be manually thrust through said orifice, as set forth.

7. In a track-sanding device, a casing arranged for connection with a sand-box, a sand-cup in said casing, and a vibrating rod extending through said cup, as set forth.

8. In a track-sanding device, a casing arranged for connection with a sand-box, a sand-cup in said casing and establishing communication between the interior of the sand-box and casing, and a vibratory rod passed through the cup and up into the sand-box for the purpose of loosening the sand, as set forth.

9. In a track-sanding device, a casing having a tubular extension forming a sand-inlet, and being further provided with a sand-outlet, an air-jet in said casing, and a sand-cup in said casing having a tubular trunnion fitted in the said tubular extension and a mouth normally opposite the said air-jet, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM H. PRENDERGAST.

Witnesses:
GEO. ARTINGSTALL,
WILLIAM F. CONSTANTINE.