

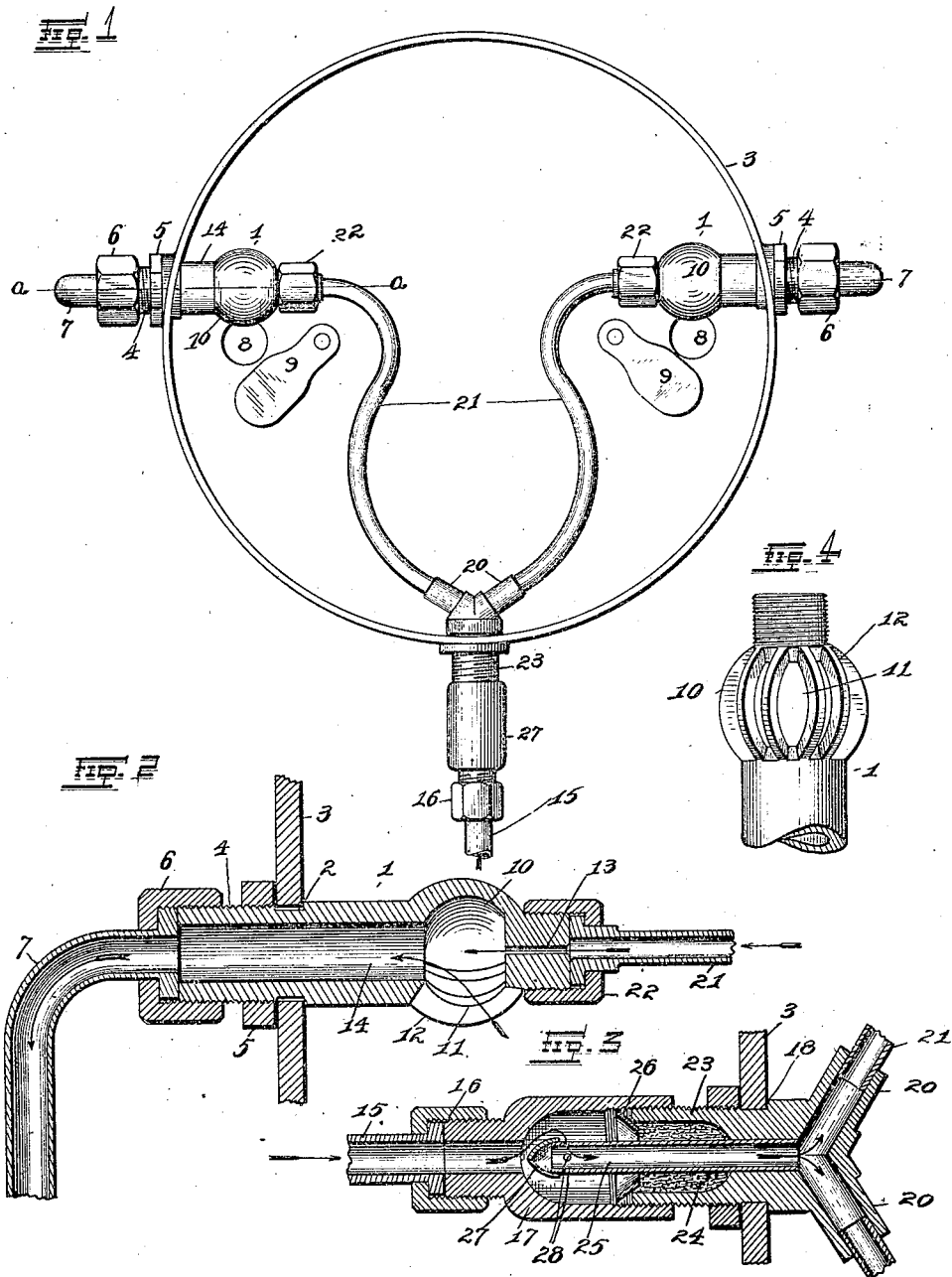
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Patented May 1, 1900.

C. A. PRATTE.
LOCOMOTIVE TRACK SANDER.

(Application filed Jan. 8, 1900.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES A. PRATTE, OF MOBERLY, MISSOURI.

LOCOMOTIVE TRACK-SANDER.

SPECIFICATION forming part of Letters Patent No. 648,709, dated May 1, 1900.

Application filed January 8, 1900. Serial No. 658. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. PRATTE, of the city of Moberly, Randolph county, State of Missouri, have invented certain new and useful Improvements in Locomotive Track-Sanders, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

This invention relates to pneumatic devices for distributing sand upon the rails in front or rear of the driving-wheels of locomotives; and it consists of the novel construction, combination, and arrangement of parts hereinafter described and claimed.

The object of my invention is to provide a pneumatic sanding device which shall produce improved results in operation, be simple in construction, and capable of being quickly applied to old or new locomotives.

In the drawings, Figure 1 is a plan view of a locomotive sand-box with the cover removed and having my invention applied thereto. Fig. 2 is a vertical section through one of the ejectors, taken on the line *a a* of Fig. 1. Fig. 3 is a sectional plan view of the air-supply pipes and my improved sediment or dirt trap. Fig. 4 is a detail plan view showing the under side of one of the ejectors.

In carrying out my invention I make use of a pair of sand-ejectors 1, located, preferably, in apertures 2, formed in the side of the sand-box 3 opposite each other and provided at their outer ends with a screw-threaded portion 4, upon which are mounted a lock or jam nut 5 and an ordinary pipe-coupling 6. Said jam-nut 5 is provided for the purpose of securely fastening the ejector in position upon the sand-box, and the said pipe-coupling 6 connects the upper end of the sand-pipe 7 to the outer end of said ejector. The ejectors are preferably located a little forward of the usual discharge-opening 8 and a slight distance above the same, for the purpose hereinafter mentioned.

I have shown only a pair of ejectors for supplying sand to the forward discharge-pipes 7 while the locomotive is running ahead; but it is evident that by a reduplication of the parts my improved sanding device may be applied to discharge sand both in advance and in the rear of the locomotive drive-wheels.

9 9 indicate the ordinary sand-valves applied to the usual discharge-openings 8. The ejectors 1 are formed with a central enlargement 10, upon the interior of which is an air-chamber which is preferably closed above and provided in its under side with a slatted or grated opening 11, through which the sand enters the ejector, the slats or bars 12 serving to prevent entrance of particles which might clog the entrance to the sand-pipe 7. Of course it is obvious that the slats or bars 12 may be displaced in some cases by means of reticulated or perforated material of any suitable construction.

One end of the ejector 1 is provided with an air-jet 13, arranged to discharge across the interior of the enlargement 10 and into the combining-tube 14 of the ejector. An air-pipe 15 supplies air from the air-brake system of the locomotive, as is usual in this class of devices, and said pipe is coupled at 16 to the outer end of a sediment or dirt trap 17, the inner end of which is passed through an opening 18 in the rear of the sand-box 3, and the interior of said box is provided with branches 20, from which lead air-pipes 21 to each ejector 1, said pipes 21 being connected to the inner end of the ejector by means of a common coupling 22.

The sediment-trap is composed of the body 17, having its inner walls threaded at one end and mounted upon the screw-threaded section 23, within which is formed a cylindrical recess 24. A trap-tube 25 is connected at its inner end to the air-passages of the branches 20 and projects outwardly through the said recess 24 and into the trap-chamber of the body 17 and is located centrally of the said recess and said chamber. A body of hair, wool, or other suitable dirt-collecting material is located within the said recess 24, surrounding said trap-tube 25, and a flared ring or funnel 26 is interposed between said collecting material and the trap-chamber. The outer end of the trap-tube is provided with an apical cap 27, and a series of small apertures 28 are formed in said tube adjacent the base of said cap.

The operation is as follows: The supply of air is regulated by means of a common cock or valve (not shown) applied to an air-supply pipe 15, and when it is desired to discharge

sand upon the rails said cock or valve is opened and a supply of air is discharged through the air-jets 13, drawing sand upwardly in the direction indicated by the arrow in Fig. 2 and through the space between the bars, and the same is discharged into the pipes 7 and onto the rails. I have found that during the operation there will be an accumulation of larger particles of sand and gravel directly beneath the ejectors, and in order to dispose of these it will only be necessary to open the usual discharge-valves 9, allowing the same to be discharged through the apertures 8. All particles of sediment or dirt which might clog up the air-jets 13 are prevented from entering said jets by being first passed through the sediment or dirt trap, the operation of which is as follows, Fig. 3: Air carrying dirt or sediment entering by way of the air-supply pipe 15 strikes the apical head 27 of the trap-tube 25 and is thereby deflected from its course, and the dirt or sediment by reason of its momentum passes onward and strikes the flared ring or funnel 26 and is thereby deflected into the collecting material contained in the recess 24, where it is retained until cleaned out by detaching the body 17. The air after being separated from dirt and sediment passes from the apertures 28 into the trap-tube 25, and thence into the pipes 21 and ejectors in the manner hereinbefore described.

I claim—

1. The improved pneumatic sander, comprising a pair of sand-ejectors 1 located in

apertures 2 formed in the vertical wall of the sand-box 3 opposite each other and held in position by jam-nuts 5, a sand-pipe 7 secured to the outer end of each of said ejectors, the air-pipe 15, and two branch air-pipes 21 located within said sand-box and connecting both of said ejectors with said air-pipe, all in combination with the common or usual sand-discharge openings 8, and ordinary sand-valves 9, said ejectors being located each near one of said openings 8 for the purpose of discharging the accumulation of larger particles of sand or gravel which form directly beneath said ejectors, substantially as specified.

2. The improved sanding device for locomotives, comprising a suitable sand-ejector, an air-jet for said ejector, a sediment-trap interposed in the air-supply pipe between said ejector and the source of air-supply and composed of a chamber, a trap-tube connected at its inner end to the wall of said chamber and projecting outwardly therein, a body of dirt-collecting material located within said chamber and surrounding said trap-tube, a deflector interposed between said collecting material and the air-entrance, and a suitable cap for the free end of said tube, substantially as specified.

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

CHARLES A. PRATTE.

Witnesses:

J. E. BRIGGS,
H. A. HATFIELD.