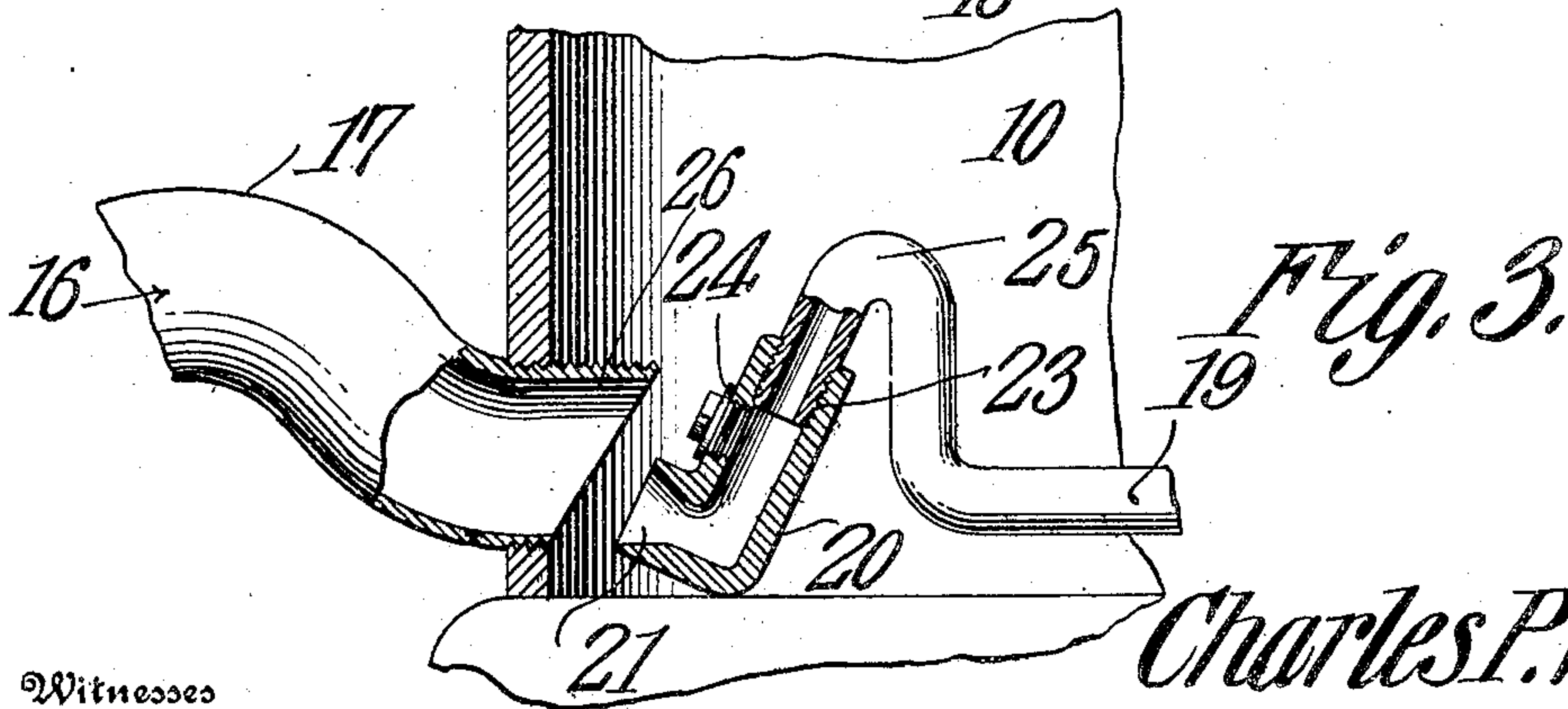
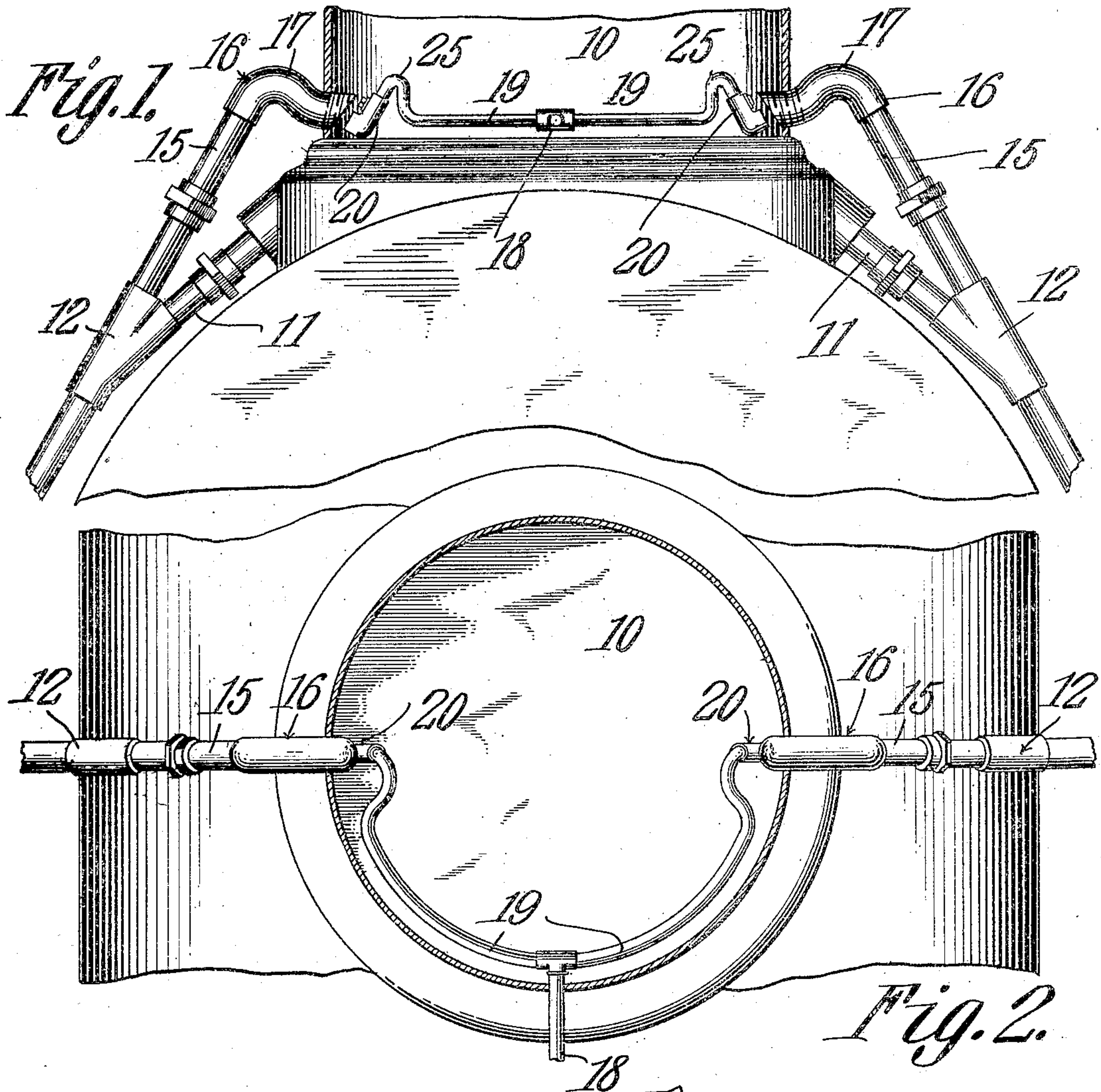


No. 887,884.

PATENTED MAY 19, 1908.

C. P. WHITE.
TRACK SANDING MECHANISM.
APPLICATION FILED NOV. 27, 1907.



Witnesses

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334

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UNITED STATES PATENT OFFICE.

CHARLES P. WHITE, OF GREENSBORO, NORTH CAROLINA, ASSIGNOR OF ONE-THIRD TO EDWIN A. RIVES AND ONE-THIRD TO ARTHUR G. WILSON, OF GREENSBORO, NORTH CAROLINA.

TRACK-SANDING MECHANISM.

No. 887,884.

Specification of Letters Patent.

Patented May 19, 1908.

Application filed November 27, 1907. Serial No. 404,086.

To all whom it may concern:

Be it known that I, CHARLES P. WHITE, a citizen of the United States, residing at Greensboro, in the county of Guilford and State of North Carolina, have invented a new and useful Track-Sanding Mechanism, of which the following is a specification.

This invention relates to track sanders of that class employed on locomotives for supplying sand to the rails, and has for its principal object to provide a novel form of pneumatic sander in which the construction is such as to prevent any clogging of the air blast pipe, this being one of the principal disadvantages found in pneumatic sanders of that type in which the air nozzle is disposed within the sand box and covered by the sand.

A further object of the invention is to provide an apparatus of this class which may be readily applied to existing track sanders having the ordinary manually operated valve for controlling the gravitational flow of the sand from the box to the rails.

With these and other objects in view, as will more fully hereinafter appear, the invention consists in certain novel features of construction and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportions, size and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings:—Figure 1 is a sectional elevation of a track sander constructed in accordance with the invention. Fig. 2 is a plan view of the same, showing the box in section. Fig. 3 is a detail view on an enlarged scale of the air nozzle and the inlet end to the discharge pipe.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

The sand box 10 is of the usual construction, and preferably is closed at the top. Leading from each side of the box are pipes 11, which run down to a position adjacent to the rails, these pipes being the ordinary pipes employed in connection with gravitational feed sanders where a manually operable valve is under the control of the engineer. This pipe 11 is cut, and a Y 12 is coupled

therein, and to one branch of the Y is connected an additional pipe 15 which forms the discharge pipe in the present instance.

To the top of the pipe 15 is coupled an inlet 16 leading from the lower portion of the sand box, and the inner portion of this inlet is provided with peripheral threads adapted to a threaded opening formed in the wall of the box. The inner end of the inlet is cut off approximately at an angle of 45°, being at a somewhat greater angle than the angle of pile of the sand. The sand will tend to flow by gravity out through the member 16, and to prevent the discharge of sand to the track through this member, an upward curve or trap 17 is formed, at such distance from the side of the box as will prevent the sand flowing by gravity through the discharge pipe 15.

Leading into the sand box is an air pipe 18 which may be connected to the main air reservoir on the locomotive, or any other suitable source of supply, and at a point within the box this pipe is coupled to two branches leading to the opposite sides of the box. At the extreme end of each of the branches is a nipple 20.

The nipple 20 is formed of a block having an air discharge opening 21 facing the inclined entrance end of the member 16, and the opening is conical in form, tapering from a large discharge mouth to a contracted throat through which the air is forced from the supply branch 19. The block 20 is provided with two threaded coupling openings 23 and 24, either of which may be coupled to the air pipe 19 in accordance with the position in which the parts are placed, and, in the present instance, the opening 24 is shown as closed by a plug, while the air pipe 19 is screwed into the opening 23.

As there would be some tendency of the sand to enter the nipple and work its way into the air pipe, and clog the same, the pipe has an upwardly extending bend or trap 25 beyond which the sand cannot work, and under any circumstances only a small quantity of sand can accumulate in the nozzle, and owing to the fact that the discharge mouth of the nozzle is of conical form, the sand will be quickly ejected even though it is moist and packed hard from the vibration of the engine.

The axial line of the discharge mouth of the nozzle is coincident with the axial line of

the uppermost portion of the member 16, so that when the air issues from the nozzle, the blast of sand and the air will be directed through the member 16, and will pass downward through the discharge pipe to the track.

That portion of the discharge pipe which is directly in communication with the sand box, or, in other words, enters the same through the walls of the sand box, is substantially horizontal, and the upper wall of the same is extended to form a lip or shield 26 which tends to prevent the weight of the superposed sand from forcing the sand into the mouth of the discharge pipe.

I claim:—

1. In a pneumatic sander of the class described, an air blast pipe having an upwardly inclined terminal nozzle, the mouth of the nozzle being conical or flared to permit the ready discharge of accumulations of sand therefrom.

2. In a track sander of the class described, a discharge pipe having a coupling connection with the sand box, the inner end of said connection being arranged obliquely to the vertical wall of the pipe, the connection being upwardly bent in advance of its connection to the discharge pipe to prevent the escape of sand by gravity, an air blast pipe, and a nozzle arranged at the end of the air blast pipe, said nozzle being arranged at an angle corresponding approximately to the angle of the inlet end of the connection, and the mouth of the nozzle being flared or conical to permit the discharge of accumulations of sand therefrom.

3. A pneumatic sander having a sand box

with which communicates an upwardly inclined discharge pipe, and an air blast nozzle arranged within the sand box, spaced from and disposed to discharge into the mouth of the discharge pipe on a line axially of an adjacent portion of such discharge pipe.

4. A sander having a sand box, a discharge pipe communicating therewith near its bottom and having an inwardly projecting or overlapping lip or shield, and an upwardly inclined air blast nozzle disposed within the sand box to discharge air into the discharge pipe.

5. A sander having a sand box, a sand discharge pipe communicating with the box near its bottom, and an air blast pipe having a nozzle disposed in the sand box to discharge axially into the discharge pipe, said sand discharge pipe and air blast pipe being provided near their opposing ends with upwardly arched traps.

6. A sander having a sand box, a sand discharge pipe communicating with the box near its bottom and provided adjacent thereto with an upwardly arched trap, the mouth or receiving end of the discharge pipe being disposed substantially horizontal, and an air blast pipe having its nozzle arranged within the sand box to discharge obliquely into the mouth of the discharge pipe.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

CHARLES P. WHITE.

Witnesses:

D. L. BROOKS,
F. G. WALKER.