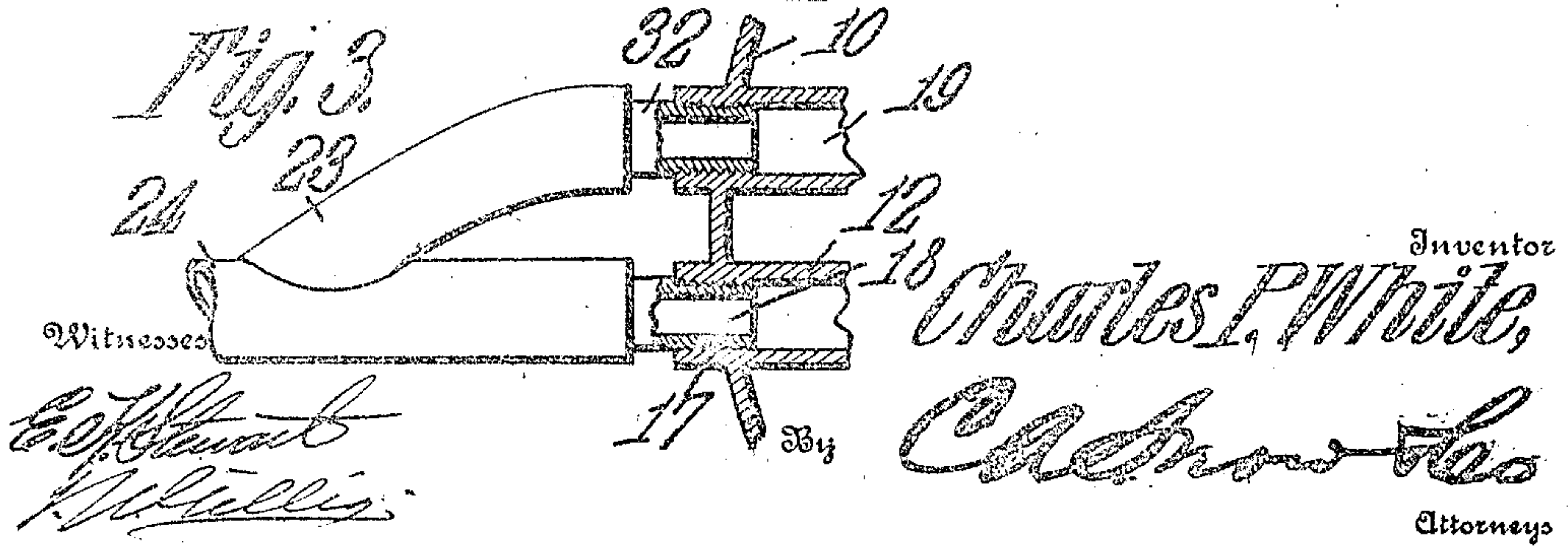
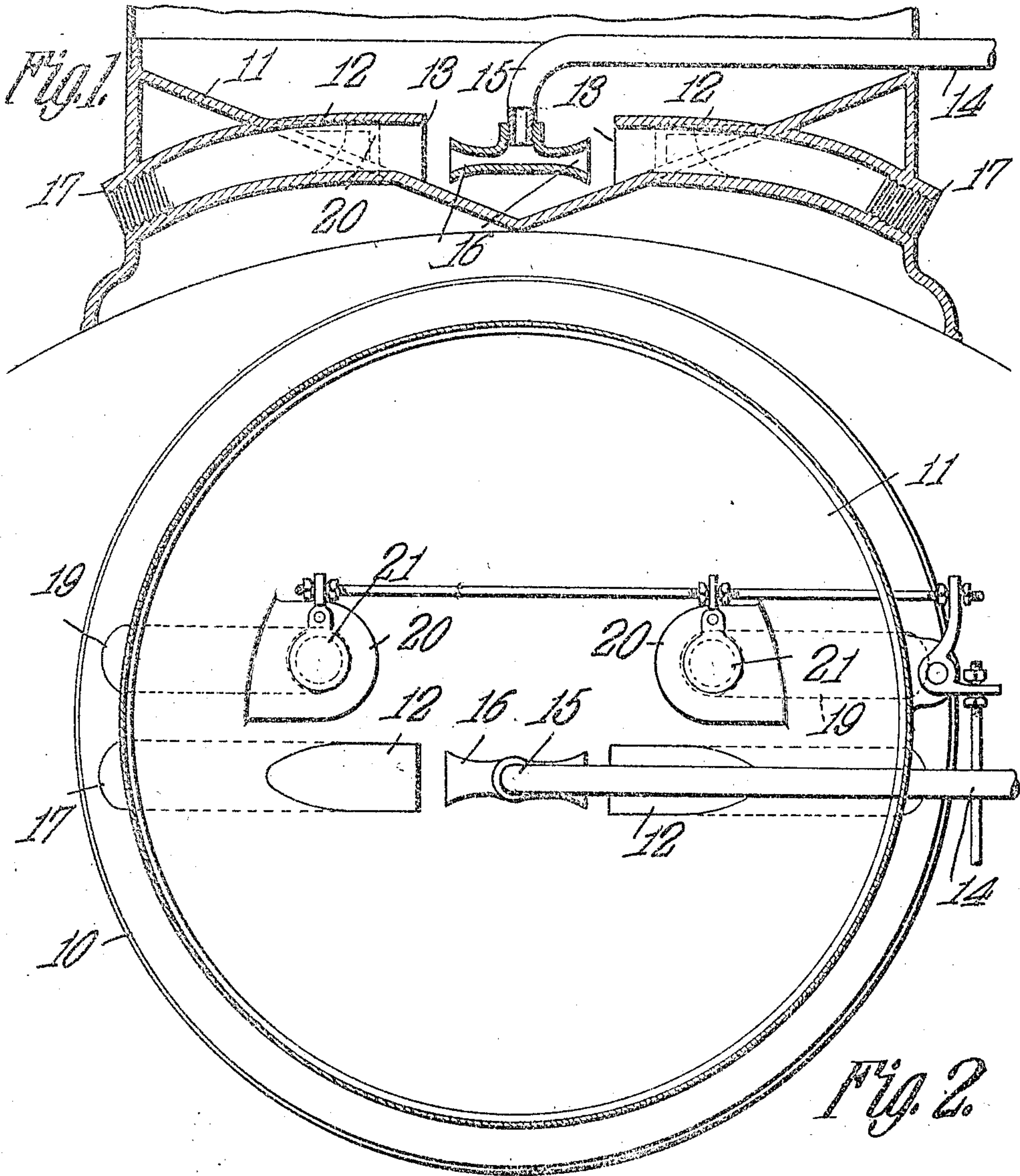


C. P. WHITE.
 TRACK SANDING DEVICE.
 APPLICATION FILED MAY 21, 1908.

920,230.

Patented May 4, 1909.
 2 SHEETS—SHEET 1.



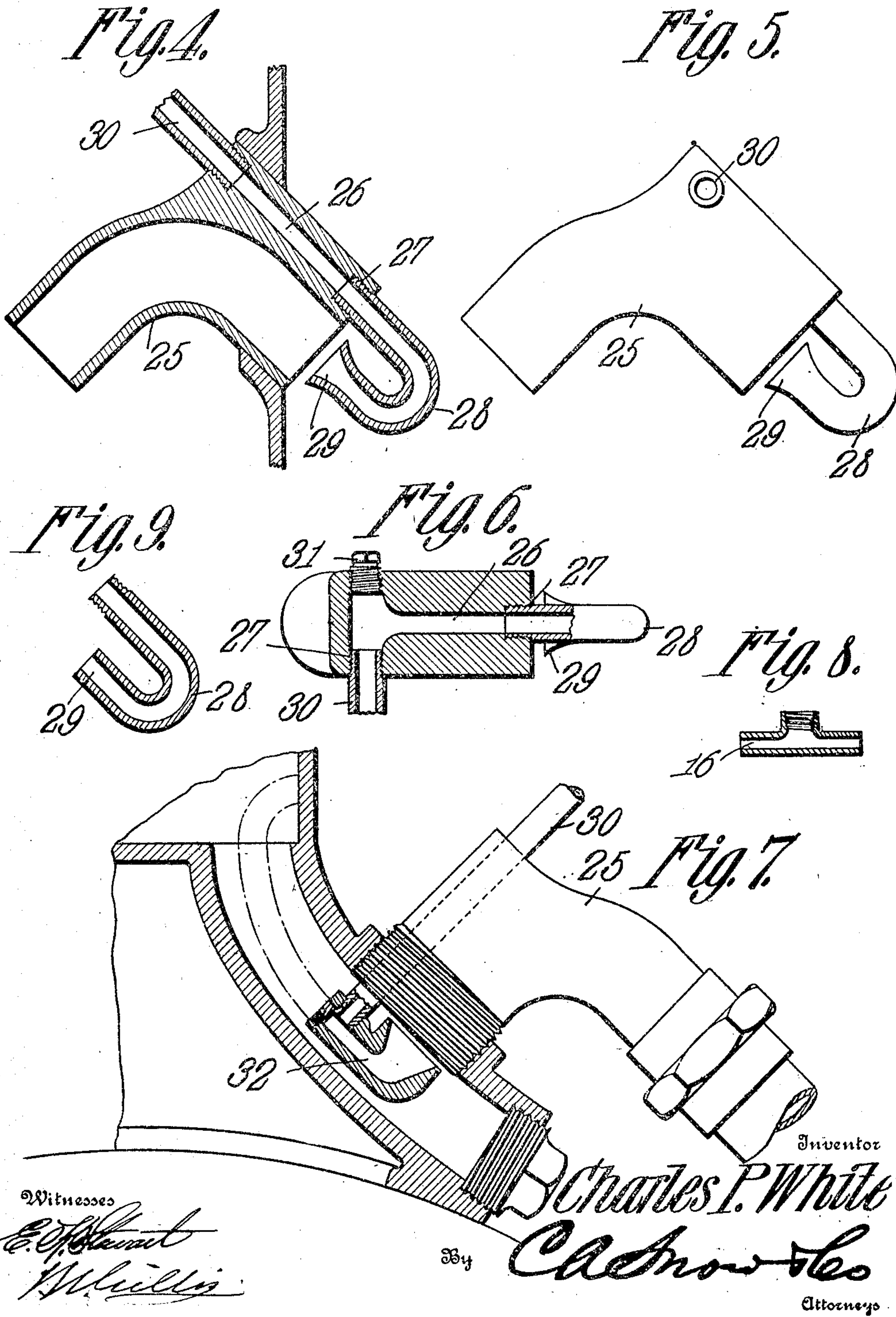
Witnesses
E. J. Lamb
W. J. Sullivan

Inventor
Charles P. White
 By *Charles P. White*
 Attorneys

C. P. WHITE.
 TRACK SANDING DEVICE.
 APPLICATION FILED MAY 21, 1908.

920,230.

Patented May 4, 1909.
 2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

CHARLES P. WHITE, OF GREENSBORO, NORTH CAROLINA.

TRACK-SANDING DEVICE.

No. 920,230.

Specification of Letters Patent.

Patented May 4, 1909.

Application filed May 21, 1908. Serial No. 434,121.

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 Device, of which the following is a specification.

This invention relates to track sanding devices for what are commonly known as track sanders, and has a special reference to those parts of a track sander in and adjacent to the sand dome of a locomotive.

One object of the invention is to provide an improved general mechanism for such a device.

Another object of the invention is to provide an improved form of sand dome base and air outlet therefrom.

With these, and other objects in view as will hereinafter become apparent, the invention consists of certain novel details of arrangement, and combinations of parts hereinafter fully described, illustrated in the accompanying drawings, and specifically set forth in the claims.

In the accompanying drawings, like characters of reference indicate like parts in the several views, and; Figure 1 is a view of the improved sander taken centrally through the improved arrangement of the air inlet and sand outlet pipe. Fig. 2 is a plan view of a sand dome constructed in accordance with this invention, the top and casing being removed. Fig. 3 is a detail of the connection between the gravity and force pipes in such a dome. Fig. 4 is a view of a modification showing a novel method of introducing the air blast and the connections therewith. Fig. 5 is a side elevation of a modification of Fig. 4. Fig. 6 is a sectional view on the line A—A of Fig. 5. Fig. 7 is a sectional view of another modification of the device. Fig. 8 is a modified form of the air nozzle shown in Fig. 1. Fig. 9 is a modified form of the air nozzle shown in Fig. 4.

Referring now to Figs. 1, 2 and 3. In the views here shown there is indicated a sand dome provided with a pressure or air blast feed, and a gravity feed for the sand. The numeral 10 indicates a sand dome base which is arranged to fit the boiler in the usual manner. At 11 is shown the sand dome bottom which in this invention is conical in form with the apex of the cone downward. In the preferred manner of constructing the

device, there is provided a pair of laterally disposed outlet pipes 12. It is obvious however, that these pipes may be formed separately from the dome base and may be screwed on or otherwise attached thereto. The inner ends of these pipes, as shown at 13 are spaced apart. A compressed air pipe 14 extends inward to a point near the longitudinal central plane of the device and is there bent downward as shown at 15. The lower end of this pipe is provided with a tee connection having branches 16 provided with flaring or straight ends as clearly shown in Fig. 1. It is to be noted that the ends 13 of the pipe 12 are so arranged as to merge gradually into the bottom 11 of the sand dome, and that the ends 16 of the air inlet are arranged in such manner as to force the sand contained in the apex or near the apex of the sand dome bottom through the pipes 12, the axis of the inlet being disposed at or below the axis of the outlet pipes 12. The outlet pipes 12 are provided on their outer ends with threaded portions 17 to each of which is attached a nipple 18. The admission of air, under pressure, through the pipe 15 is controlled by a suitable valve in the cab of the engine, not deemed necessary here to be shown.

In the form of the device indicated in Figs. 1 to 3 inclusive, the gravity supply is through pipes 19 opening upward through bosses 20 formed in the bottom of the dome base in such manner that their upper surfaces are substantially horizontal. A gate 21, actuated in any suitable manner from the engineer's cab is held to close the mouths of the passages or pipes 19. The outer ends of the pipes 19 are screw threaded in like manner to the ends 17 of the pipes 12. Attached to the outer ends of the pipes 19 are nipples 32, a Y 23 connects the nipples 32 and 18 on each side of the dome, and the Y is so arranged that the passage from the nipple 18 is direct, while that from the nipple 32 forms the branch of the Y. A pipe 24 connects to the stem of the Y, and leads from that point down to a suitable point near the rail for the deposition of sand thereon in advance of the driving wheel of the locomotive. It is to be noted that with this arrangement there is a direct supply of sand from the pressure pipe.

It will be observed that the device as here shown comprises both gravity and air feed for the sand. It is obvious that the air feed

may be used alone, in which case the feed pipes will be located centrally of the longitudinal section of the dome. In either case it is to be noted that the sand supply is by direct air blast, and not as is usual by indirect suction and air blast.

In Fig. 4 is shown one modification of the device, the same being in the form of a detachable sand pipe casting 25 provided with an air passage 26 extending longitudinally therethrough. Each end of the air passage is recessed and threaded as indicated at 27 and the inner end is provided with a reversely bent air nozzle 28 having a flaring or straight mouth as at 29. The outer end of the air passage has an air pipe 30 screwed therein which receives air from the usual source. Figs. 5 and 6 show a modification of this form of the invention wherein the air is introduced from the side and the air passage 26 is in the form of a tee. In this case it is preferred to employ a plug 31 for the purpose of closing one end of the tee portion of the air passage. It is obvious that with either of these forms a straight or flaring nozzle may be used as desired.

In Fig. 7 is shown a form of the device especially adapted for application to existing sand domes where the sand pipes extend downward as indicated in that figure. In this form of the invention the usual detachable nozzle 25 is provided and the air is brought in preferably as indicated in Fig. 4, although the air may be let in as shown in the dotted lines in Fig. 7. In place of the ordinary rebent nozzle 28 there is here shown a modification thereof as indicated at 32, the principles of which are however, identical.

It is to be noted that in all of the devices shown in Figs. 4 to 7 the air nozzle is upwardly disposed.

There has thus been provided a simple and efficient device of the character described, which is entirely free from many of the objectionable features existing in other devices of like character.

Having thus described the invention what is claimed, is:—

1. In a track sander, a sand dome provided with a dome base having a downwardly dished bottom, a sand pipe leading out therefrom, and an air nozzle spaced from but adjacent to said sand pipe.

2. In a track sander, a sand dome provided with a dome base having a downwardly dished bottom, oppositely disposed sand pipes leading out therefrom, and an air pipe having a double branched nozzle arranged intermediate said sand pipes.

3. In a track sander, a sand dome provided with a dome base having a downwardly dished bottom, oppositely disposed sand pipes leading out therefrom at points near the lower portion of the bottom, and an air pipe having a double branched nozzle inter-

mediate said sand pipes, the branches being provided with flaring mouths.

4. In a track sander, a sand dome provided with a hollow inverted conical bottom, a sand pipe having one end thereof extending through the conical bottom and communicating with the interior of the dome and its opposite end deflected downwardly, and an air nozzle spaced from but adjacent to said sand pipe.

5. In a track sander, a sand dome provided with a hollow inverted conical bottom, oppositely disposed sand pipes leading out therefrom, and an air pipe having a double branched nozzle arranged intermediate said sand pipes.

6. In a track sander, a sand dome provided with a hollow inverted conical bottom, oppositely disposed sand pipes leading out therefrom at points near the apex of the conical bottom, and an air pipe having a double branched nozzle intermediate said sand pipes, the branches being provided with flaring mouths.

7. In a track sander, a sand dome provided with a dome base having a hollow inverted conical bottom, sand pipes leading laterally therefrom, an air nozzle spaced from but adjacent each of said sand pipes, other sand pipes leading downwardly and outwardly from said dome base, a gate to close each of the second mentioned pipes, and means to simultaneously actuate said gates.

8. In a track sander, a sand dome provided with a dome base having a hollow inverted conical bottom, sand pipes leading laterally therefrom, an air pipe having a double branched nozzle arranged intermediate said sand pipes, other sand pipes leading downwardly and outwardly from said dome base, a gate to close each of the second mentioned pipes, and means to simultaneously actuate said gates.

9. In a track sander, a sand dome provided with a dome base having a hollow inverted conical bottom, sand pipes leading laterally therefrom, an air pipe having a double branched nozzle intermediate said sand pipes, the branches being provided with flaring mouths, other sand pipes leading downwardly and outwardly from said dome base, a gate to close each of the second mentioned pipes, and means to simultaneously actuate said gates.

10. In a track sander, a sand dome provided with a dome base having a hollow inverted conical bottom, sand pipes leading laterally therefrom, an air nozzle spaced from but adjacent to each of said sand pipes, other sand pipes leading downwardly and outwardly from said dome base, a lateral Y connecting said sand pipes exterior of said dome base, the straight branch of the lateral Y lying in line with the first mentioned sand pipes, to cause the air blast to flow directly through

the pipes, a gate to close each of the second mentioned sand pipes, and means to simultaneously actuate said gates.

11. In a track sander, a sand dome having an inverted conical shaped bottom, oppositely disposed sand pipes extending through the bottom of the sand dome and having their opposite ends deflected downwardly, and an air nozzle disposed at the apex of the bottom of the dome for discharging a blast of air into both sand pipes.

12. In a track sander, a sand dome having an inverted conical shaped bottom, a sand pipe extending through the bottom and having its inner end provided with a flared mouth and its outer end deflected downwardly, and means for discharging a blast of air into the flared mouth of the sand pipe.

13. In a track sander, a sand dome having an inverted conical shaped bottom, oppositely disposed main sand pipes extending through the bottom of the dome and having their outer ends deflected downwardly, an air nozzle arranged between the inner end of said sand pipes, auxiliary sand pipes extending through the bottom of the dome and communicating with the main sand pipe, and valves forming closures for the upper ends of the auxiliary sand pipes.

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:

J. C. WILSON,
R. R. HILL.