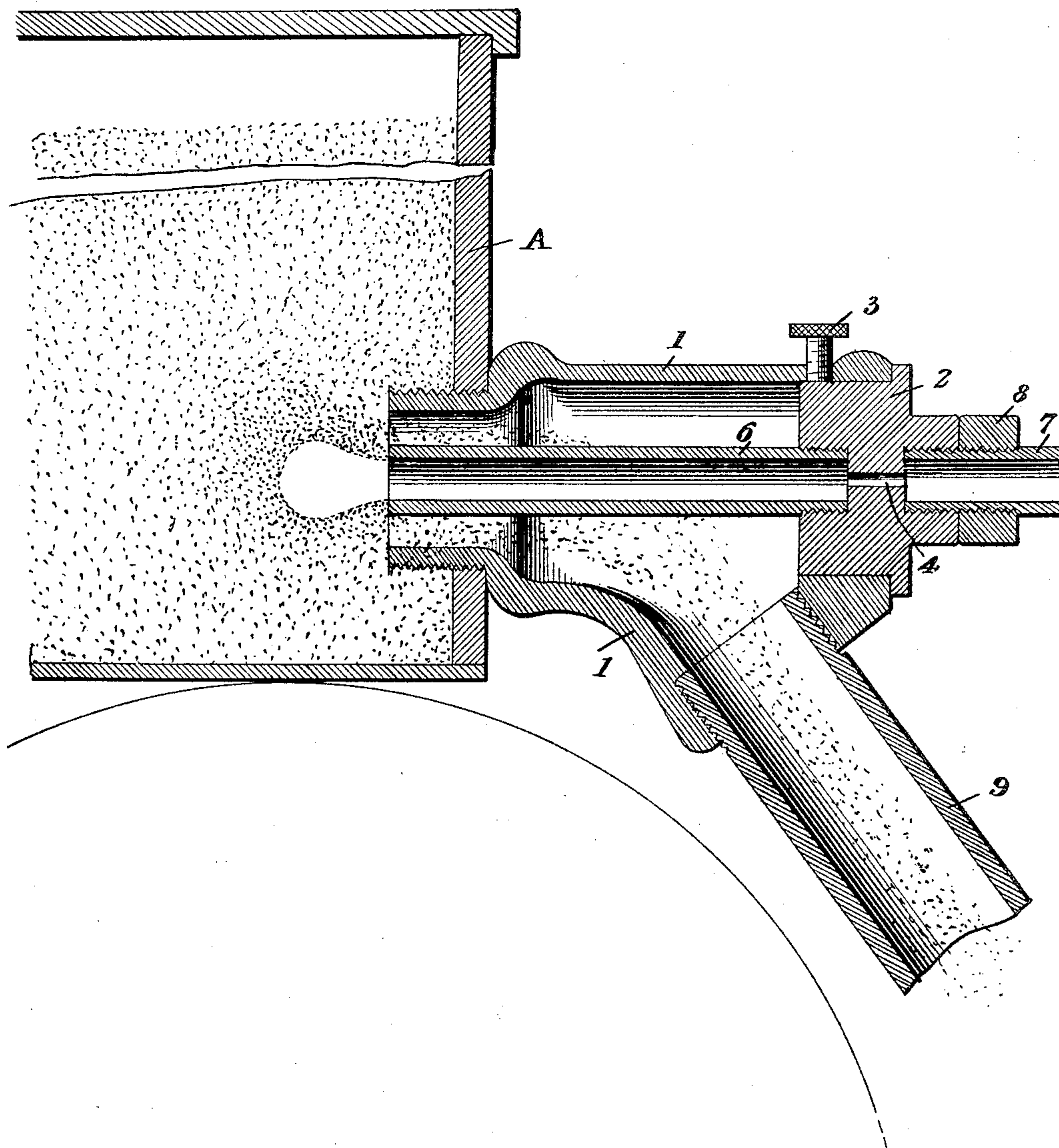


No. 803,258.

PATENTED OCT. 31, 1905.

J. H. WATTERS.
TRACK SANDER.

APPLICATION FILED JUNE 24, 1905.



Witnesses

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TRACK-SANDER.

No. 803,258.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN HENRY WATTERS, a citizen of the United States, residing at Augusta, in the county of Richmond and State of Georgia, have invented a new and useful Track-Sander, of which the following is a specification.

This invention relates to track-sanders, and has for its principal object to provide a means for forcing sand from the box under air-pressure without resorting to a jet and its accompanying disadvantages—that is to say, the production of a sand-blast which cuts and wears away all parts with which it comes in contact and the delivery of the sand with such force that it is seldom retained on the rail.

A further object of the invention is to provide a sander in which the sand is caused to flow gently and smoothly from the sand-box to the track by the employment of a volume of air under pressure, the air being introduced into the sand-box in such manner as to agitate the sand and prevent it from packing solidly in the box.

A still further object of the invention is to provide a device of this type in which provision is made for permitting expansion of the air before it enters into the box, so that the pressure of the air will be reduced and the destructive sand-blast avoided.

A still further object of the invention is to provide a device of this type in which the current of air entering the box in one direction causes the flow of sand under pressure from the box in the opposite direction.

A still further object of the invention is to improve and simplify the construction of devices of this type, to permit the ready assembling of the parts, and to permit cleaning in case of choking from the entrance of large particles of gravel or other material into the pipes.

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 herein-after 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.

The accompanying drawing illustrates in

vertical section a track-sander constructed in accordance with the invention.

The sand-box A is of any ordinary construction and is provided with a closed top. The wall of the box is provided with a threaded opening for the reception of the threaded tubular end of a casing 1, the opposite end of which is closed by a readily-removable plug 2, that is held in place by a screw 3. This plug is provided with a centrally-disposed contracted passage 4, the opposite ends of which communicate with threaded recesses for the reception of pipes 6 and 7, the pipe 7 being connected to a source of air-supply and generally being locked in place by a nut 8. From the lower portion of the casing leads a discharge-pipe 9, terminating at a point slightly above the track and through which the sand flows during the operation of the sander.

The tubular end of the casing 1 is vertical and extends into the body of sand the same distance as the pipe-section 6. This pipe 6 is of uniform diameter from end to end, and its bore is much greater in diameter than the bore of the passage 4, so that air flowing through the passage 4 under pressure will have an opportunity to expand into pipe 6 and its pressure will be materially reduced by the time it arrives at the discharge end of said pipe 6. The inner end of the pipe 6 extends into the body of sand and conducts thereinto a volume of air under pressure, so that the sand within the box will be agitated and will be forced under pressure through the tubular portion of the casing, and thence down through the discharge-pipe 9.

In operation the air supplied through the pipe 7 is forced to travel through the contracted passage 4, and as the air enters the pipe 6 it will expand and the pressure will be reduced to such an extent that the body of air enters the sand-box under a comparatively low pressure, and while the force of the stream of air is such as to agitate and loosen the same it does not act to form a sand-blast. The volume of air displaces a portion of the sand, and as the top of the box is closed the air cannot escape, but must remain in the box, so that the sand is forced through the only available outlet—that is to say, through the annular passage around the pipe 6 and into the casing 1, from whence it falls through the delivery-pipe 9, the speed at which it travels through the pipe being but little, if any,

greater than that caused by gravity, so that sand will fall to the track and will remain on the track in front of the wheels and will not be blown away, a common occurrence where sand is delivered by an air-blast.

Having thus described the invention, what is claimed is—

1. In a track-sander, a sand-box, a casing connected to the sand-box and into which the sand is forced under pressure, and a pipe leading through the casing and extending into the body of sand, said pipe having a portion of contracted diameter in advance of its discharge end and being arranged to deliver into the body of sand a volume of air under low pressure, which, in displacing the sand, will cause the latter to flow outward from the box.

2. In a track-sander, a sand-box, a casing having a tubular end extending into the box, and an air-pipe leading through the casing and projecting into the sand-box a distance equal to that of said tubular end portion, said pipe having a portion of contracted diameter in advance of its discharge end and serving to convey into the box a volume of air under low pressure, which air, in displacing the sand, forces the same outward through the tubular portion of the casing.

3. In a track-sander, the combination with a casing having at one end a projecting tubular portion projecting within the box and provided near its opposite end with a delivery-

pipe connection, an air-supply pipe extending through the casing and projecting into the sand, said pipe having a portion of contracted diameter in advance of its discharge end and serving as a means for conveying a body of air under low pressure into the box.

4. In a track-sander, a casing connected to the sand-box and arranged for the reception of sand therefrom, and an air-pipe leading through the casing and having its delivery end projected into the sand-box, said air-pipe having a portion of contracted diameter in advance of its discharge end to retard the flow of air, and to permit expansion of the relatively small volume of air passing through the contracted passage into the larger area of the pipe in advance of its discharge from said pipe.

5. In a track-sander, a sand-box, a casing opening thereinto, and an air-conveyer leading into the sand-box and adapted to direct a stream of air against the body of sand in the box, said air-conveyer having a passage of contracted diameter in advance of its discharge end.

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

JOHN HENRY WATTERS.

Witnesses:

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