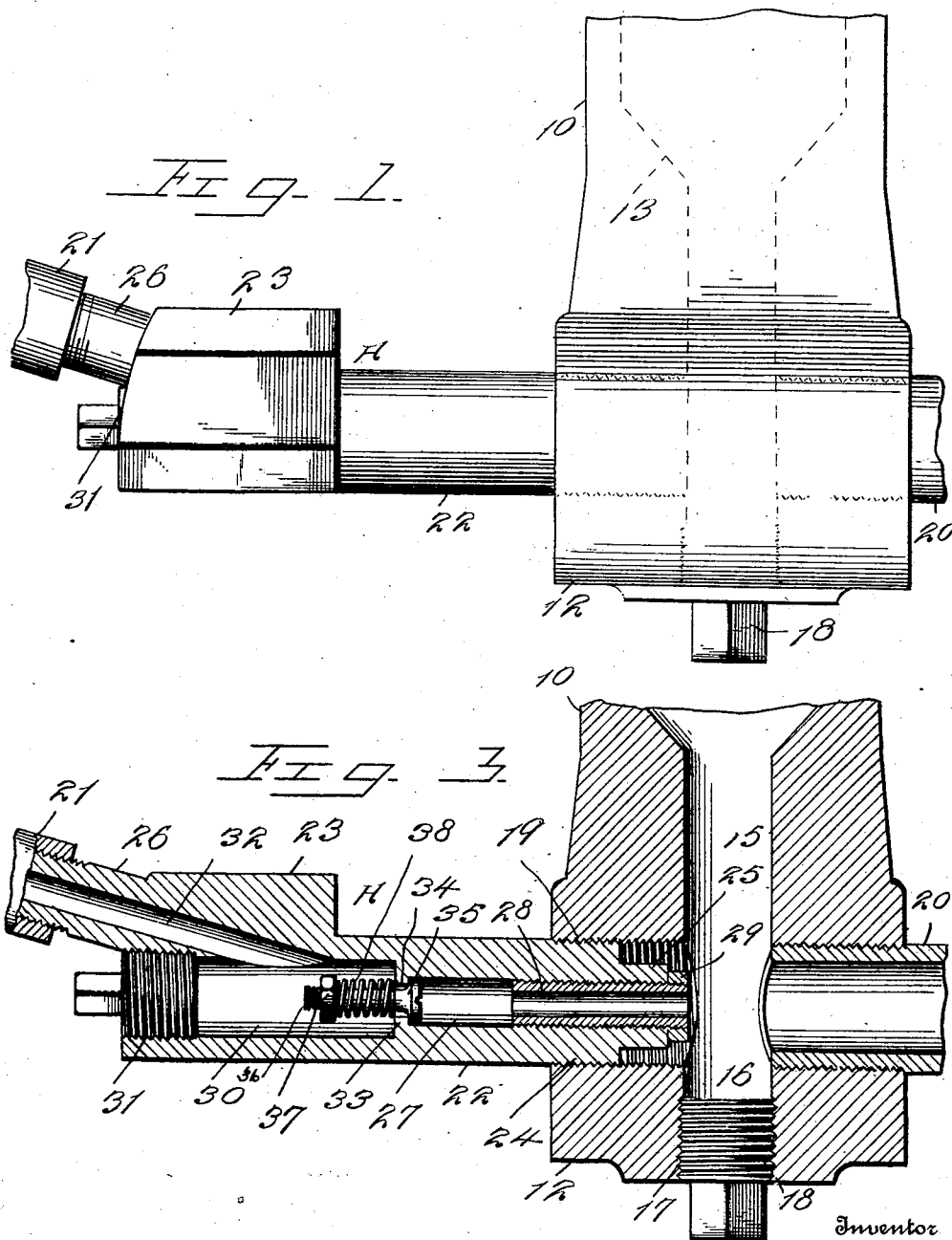


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LOCOMOTIVE SANDER.
APPLICATION FILED JULY 2, 1910.

Patented Aug. 23, 1910.

2 SHEETS—SHEET 1.



Witnesses
J. C. Simpson
L. N. Lullie

Inventor
Anton Albert Worzen
By *[Signature]*
Attorney

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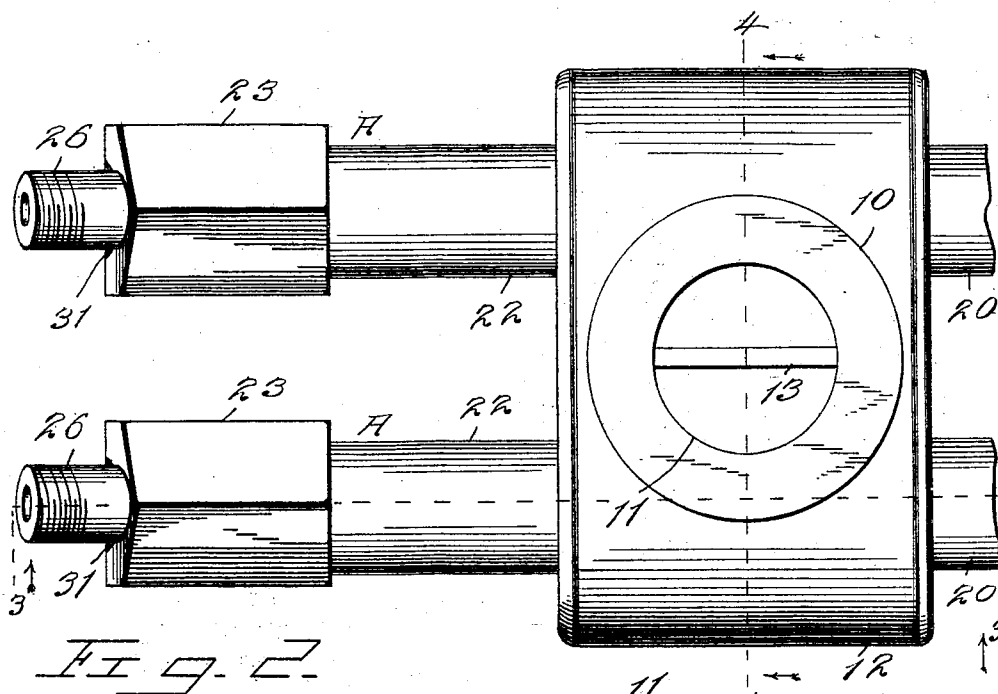


Fig. 2

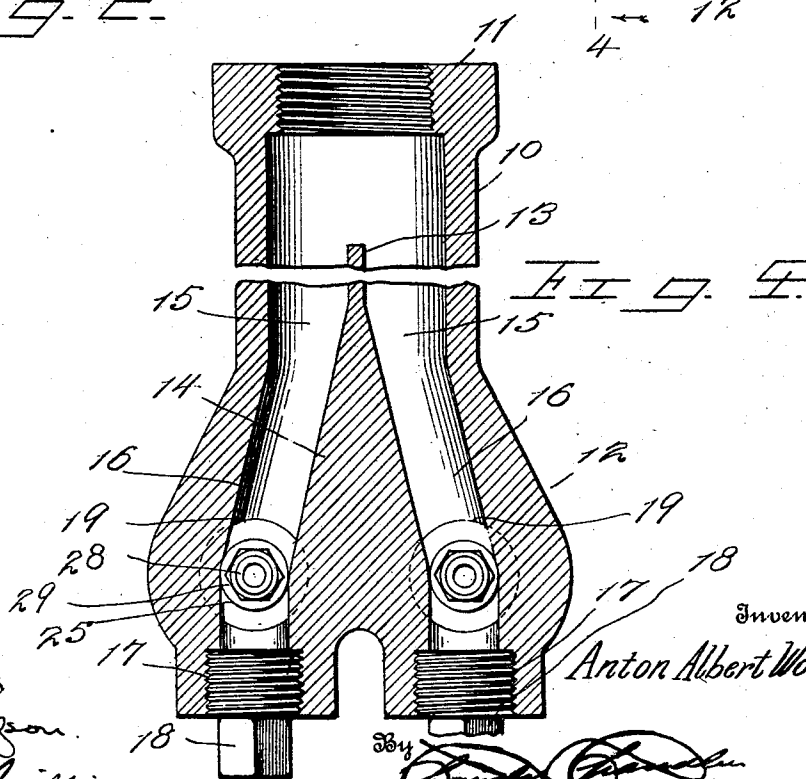


Fig. 4

Witnesses

J. C. Simpson.
L. N. Gillis.

Inventor

Anton Albert Worzen

By

[Signature]

Attorneys

UNITED STATES PATENT OFFICE.

ANTON ALBERT WORZEN, OF SOUTH BROWNSVILLE, PENNSYLVANIA.

LOCOMOTIVE-SANDER.

968,305.

Specification of Letters Patent.

Patented Aug. 23, 1910.

Application filed July 2, 1910. Serial No. 570,127.

To all whom it may concern:

Be it known that I, ANTON A. WORZEN, a citizen of the United States, residing at South Brownsville, in the county of Fayette, State of Pennsylvania, have invented certain new and useful Improvements in Locomotive-Sanders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to track sanding devices or what are commonly known as locomotive sanders.

One object of the invention is to provide an improved form of nozzle for use with devices of this character.

A second object of the invention is to provide an improved form of sand trap for such devices.

With the above and other objects in view, the invention consists in general of an improved form of sand trap together with a novel nozzle adapted to be used with said trap.

The invention further consists in certain novel details of construction 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 side elevation of the device with the nozzle in position. Fig. 2 is a top plan view thereof. Fig. 3 is a section on the line 3—3 of Fig. 2. Fig. 4 is a section on the line 4—4 of Fig. 2.

This sander is intended to be applied to a locomotive just beneath the running board and to be operated by means of compressed air supplied in the usual manner from the air compressing plant of such a locomotive. Its method of application to a locomotive and connection to the various pipes being common and well known it is not deemed necessary here to show such an arrangement.

The sand trap comprises a cylindrical body portion 10, this portion being tubiform and provided with an inlet end 11 interiorly threaded for connection to a sand supply pipe. The lower or delivery end of this body portion is elongated and widened as at 12.

At 13 is a centrally disposed septum which extends adjacent to but terminates in spaced relation with the top of the body 10.

The lower end of this septum 13 is thickened as at 14 so that there is provided a pair of semi-circular passages 15 which terminate in reduced delivery ends 16. These delivery ends 16 open through the bottom of the sand trap in spaced relation and are there provided with internal thread portions 17 adapted to receive cleaning plugs 18, the latter being normally held in the ends 17. Above these ends 17 the sand trap is provided with spaced transverse bores 19 which intersect the passages 16 and are threaded interiorly. To one end of each of these bores is connected a delivery pipe 20 while to the other end is connected a nozzle which is indicated in general at A and which is in turn connected to an air supply pipe 21. The nozzle A comprises a body portion 22 the forward end of which is substantially cylindrical while the rear end is preferably hexagonal in form and enlarged as at 23 for the purpose of providing means for grasping the nozzle with a wrench. The extremity of the portion 22 is threaded as at 24 and it is this threaded end that is screwed into one end of one of the openings 19. Extending inward from the body 22 is a reduced portion 25 while extending outwardly and upwardly from the portion 23 is a reduced portion 26 threaded on its extremity for the purpose of the attachment of the air pipe 21. Concentric with the cylindrical portion 22 there is formed a bore which extends longitudinally through the nozzle. The forward end of this bore is of relatively small size as indicated at 27 and the extremity of this portion, which is preferably termed the reduced portion, is threaded for the reception of a delivery tube 28 upon the outer end of which is carried a lock nut 29. The rear end of this bore is preferably termed the enlarged portion and is indicated at 30. The outer extremity of this rear end is threaded for the reception of a plug 31 which may be removed when necessary to clean the nozzle. Extending through the portion 26 of the nozzle and opening into the enlarged bore 30 is an opening preferably termed the supply opening. Between the portions 27 and 30 of the bore is an inwardly extending flange 33 by means of which there is provided a reduced opening 34 between said bore portions. Movable in the bore 27 is a valve 35 which is provided with a threaded stem 36, the latter extending through the opening 34 and into

the bore 30. On this threaded stem is a nut 37 and between the nut 37 and the inner end of the bore 30 is a coil spring 38 which normally urges the valve 35 against the seat
5 formed by the flange 33.

It is to be observed that the delivery tube 28 may be adjusted with relation to the nozzle by the simple process of screwing the same in or out of the nozzle, the tube being
10 held in adjusted position by the lock nut 29.

In the operation of the device the sand trap may have one of the delivery openings 19 closed by a suitable plug, the nozzle opening in this case being likewise closed, or
15 two nozzles may be used with the one trap. When the device is in use sand fills the sand trap and when the valve, not deemed necessary here to be shown, controlling the air pipe 21 of either nozzle is opened air will
20 flow through the diagonally disposed opening 32, force the check valve 35 open and pass out violently through the delivery tube 28. This air will blow the sand out through the pipe 20 opposite. By reason of the provision of the check valve air is prevented
25 from blowing up and over the septum and forcing sand into the delivery nozzle as well as passing back into the other air tube. It is to be noted that the peculiar position of the tube or opening 32 is such that the
30 incoming blast of air strikes directly on the valve 36 so that it is opened simultaneously with the opening of the valve in the respective pipe 21.

There has thus been provided a simple and efficient device of the kind described and for the purpose specified.

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

40 1. In a sander, a nozzle comprising a body portion having a bore extending longitudinally therein, one end of said bore being enlarged and the other end of said bore being threaded, a delivery tube screwed into said
45 threaded end, an annular flange extending inwardly of the second mentioned end of the bore and providing a reduced opening between the ends of said bore, a valve in the smaller end of said bore and provided with
50 a threaded stem extending through said opening into the larger end of the bore, a nut on said stem, a spring surrounding said stem between the nut and flange, and an air duct leading to said enlarged end of the
55 bore.

2. In a sander, a nozzle comprising a body portion having a bore extending longitudinally therethrough, one end of said bore being enlarged, each extremity of the bore being threaded, a cleaning plug screwed into
60 the threaded extremity of the larger end of the bore, a delivery tube screwed into the threaded extremity of the smaller end of the bore, said delivery tube projecting from said
65 smaller end and being provided with a lock

nut on the projecting end, an annular flange extending inwardly of said bore between the larger and smaller ends, said flange providing a reduced opening between said ends, a valve in the smaller end of said bore and provided with a threaded stem extending
70 through said opening into the larger end of the bore, a nut on said stem, a spring surrounding said stem between the nut and flange, and an air duct extending diagonally
75 into the larger end of said bore, said air duct being directed toward said reduced opening.

3. In a sander, a nozzle comprising a body portion having a bore extending longitudinally therein, one end of said bore being enlarged and the other end of said bore being threaded, a delivery tube screwed into said
80 threaded end, an annular flange extending inwardly of the second mentioned end of the bore and providing a reduced opening between the ends of said bore, a valve in the smaller end of said bore and provided with a threaded stem extending through said
85 opening into the larger end of the bore, a nut on said stem, a spring surrounding said stem between the nut and flange, and an air duct leading to said enlarged end of the bore; in combination with a sand trap into which said nozzle opens, and a delivery tube
90 leading out of said sand trap opposite said nozzle.

4. In a sander, a nozzle comprising a body portion having a bore extending longitudinally therethrough, one end of said bore being enlarged, each extremity of the bore being threaded, a cleaning plug screwed into
100 the threaded extremity of the larger end of the bore, a delivery tube screwed into the threaded extremity of the smaller end of the bore, said delivery tube projecting from said
105 smaller end and being provided with a lock nut on the projecting end, an annular flange extending inwardly of said bore between the larger and smaller ends, said flange providing a reduced opening between said ends,
110 a valve in the smaller end of said bore and provided with a threaded stem extending through said opening into the larger end of the bore, a nut on said stem, a spring surrounding said stem between the nut and flange, and an air duct extending diagonally
115 into the larger end of said bore, said air duct being directed toward said reduced opening; in combination with a sand trap into which said nozzle opens, and a delivery tube leading out of said sand trap opposite said nozzle.
120

5. In a sander, a sand trap comprising a tubiform body portion having an enlarged lower end, a septum extending longitudinally of said body portion to provide separate sand passages, said septum having an enlarged lower end, the enlarged lower end of the septum lying in the enlarged end of the body, said enlarged body end being provided with diverging passages forming ex-
125
130

tensions of the passages on each side of the upper part of the septum, said enlarged end of the body being further provided with a threaded opening extending transverse of
5 said passages.

6. In a sander, a sand trap comprising a tubiform body portion having an enlarged lower end, a septum extending longitudinally of said body portion to provide separate sand passages, said septum having an enlarged lower end, the enlarged lower end of the septum lying in the enlarged end of the body, said enlarged body end being provided with diverging passages forming ex-
10 tensions of the passages on each side of the
15

upper part of the septum, said enlarged end of the body being further provided with a threaded opening extending transverse of said passages; in combination with a nozzle screwed into one end of each of said trans- 20
verse passages, and a delivery pipe screwed into the other ends of said transverse passages.

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

ANTON ALBERT WORZEN.

Witnesses:

HARRY R. WARNOCK,
GEORGE H. BURNETTE.