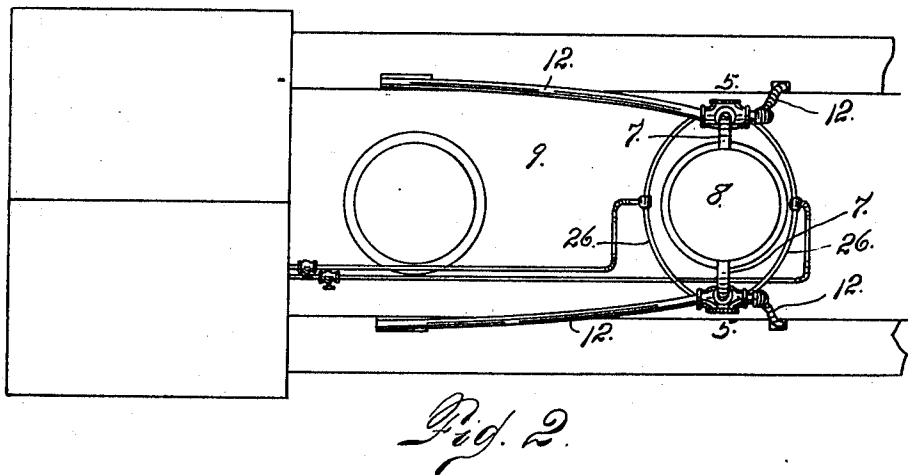
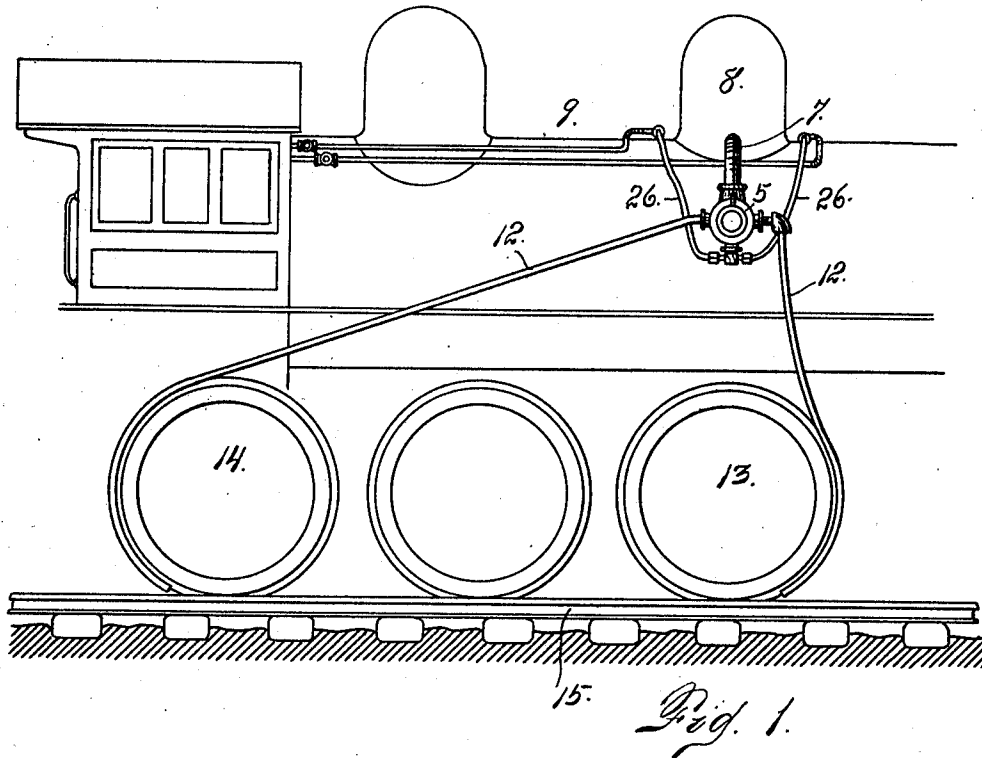


R. KETT.
 TRACK SANDER FOR LOCOMOTIVES.
 APPLICATION FILED OCT. 28, 1910.

1,004,177.

Patented Sept. 26, 1911.

2 SHEETS—SHEET 1.



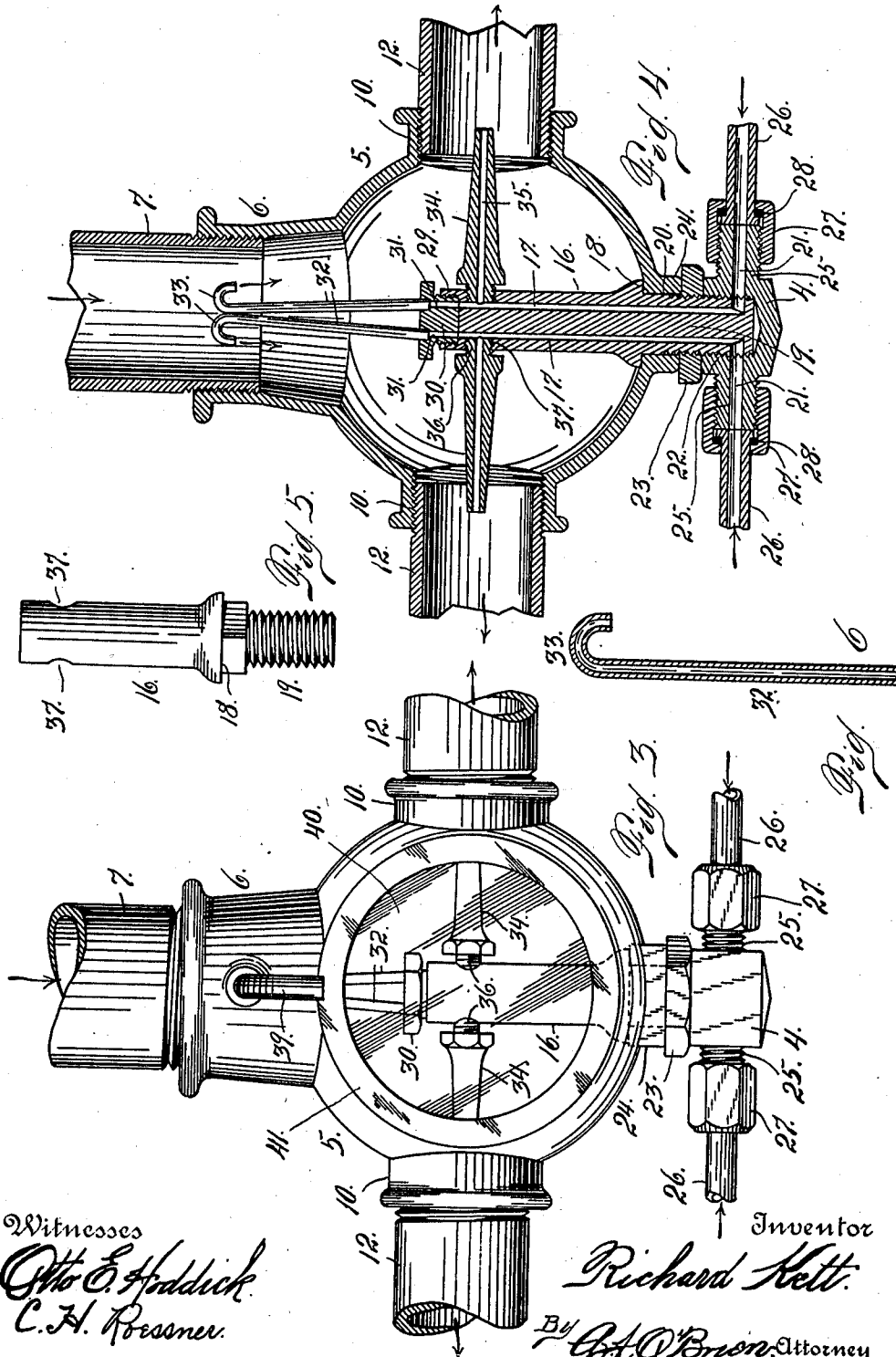
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UNITED STATES PATENT OFFICE.

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TRACK-SANDER FOR LOCOMOTIVES.

1,004,177.

Specification of Letters Patent. Patented Sept. 26, 1911.

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To all whom it may concern:

Be it known that I, RICHARD KETT, a citizen of the United States, residing in the city and county of Denver and State of Colorado, have invented certain new and useful Improvements in Track-Sanders for Locomotives; and I do 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, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in track sanders for locomotives and belongs to that type of sanders which operate upon the vacuum principle, or in which the sand is initially drawn from a receptacle into which it passes after leaving the sand box or reservoir, by jets of air issuing from nozzles in the vicinity of the receptacle, and after its initial removal is propelled or driven through conduits leading to the track by the force of the air.

In my improved construction air is originally introduced through an upright member containing two longitudinally disposed perforations, each of which communicates with a nozzle extending at right angles to the said member, the outer extremities of the nozzles entering laterally disposed pipes connected with the receptacle or chamber containing the sand. The aforesaid perforations in the upright member also respectively communicate with tubes extending upwardly and having their free extremities bent downwardly, whereby the air issuing therefrom enters the receptacle and agitates the sand, thus preventing it from packing therein. This is an important feature, since the initial force of the air issuing from these tubes acts directly upon the sand within the receptacle for agitating purposes, after which it passes out through the laterally disposed pipes and supplements the action of the air issuing from the nozzles.

Having briefly outlined my improved construction, I will proceed to describe the same in detail, reference being made to the accompanying drawing in which is illustrated an embodiment thereof.

In this drawing: Figure 1 is a fragmentary outline side elevation of a locomotive equipped with my improved air sanding ap-

paratus. Fig. 2 is a top plan view of the same. Fig. 3 is a front view of the sander proper, the conduits connected therewith being broken away and the parts shown on a larger scale. Fig. 4 is a vertical section of the same. Fig. 5 is a detail view of the vertically disposed centrally located member through which the air enters the sand receptacle or chamber. Fig. 6 is a sectional view in detail of one of the air tubes forming a part of the sander, the same being shown on a larger scale.

The same reference characters indicate the same parts in all the views.

Let the numeral 5 designate the body of the sander which, as illustrated in the drawing, is approximately cylindrical in shape and formed hollow, constituting a sand receptacle. The upper extremity of this receptacle is provided with an interiorly threaded neck 6 into which is screwed a pipe 7 leading from the sand box or reservoir 8 mounted on the locomotive 9. Attention is called to the fact that when the device is in use there is one of these sanders located on each side of a locomotive. This feature is best illustrated in Fig. 2 of the drawing. The receptacle 5 is also provided on opposite sides with interiorly threaded collars 10 into which are screwed pipes 12 which lead downwardly. One of these pipes occupies a position forward of a front wheel 13 of the locomotive, while the lower extremity of the other pipe occupies a position in the rear of a wheel 14 of the locomotive. Both pipes on each side of the locomotive are so arranged that when the device is in use, they deliver sand to the track rails 15.

Centrally located in the receptacle 5 and projecting upwardly from the bottom thereof is a cylindrical member 16 having two longitudinally disposed perforations 17. This perforated member has a shoulder 18 which engages the lower part of the receptacle on the inside. Below this shoulder the member 16 is provided with an exteriorly threaded extension 19 which passes through an opening 20 formed in the bottom of the receptacle and is threaded into a fitting 4 having horizontally disposed passages 21 which communicate with the lower extremities of the perforations 17.

The upper part of the extension 19 immediately below the shoulder is polygonal, preferably square, in cross section, and is

fitted into the opening 20 which is of counterpart shape. By virtue of this construction the upright member is locked against rotation in the receptacle for a purpose
 5 which will be apparent as this specification proceeds. This fitting 4 is provided with an interiorly threaded socket 22 which receives the lower extremity of the extension 19 of the member 16. This last named member is
 10 secured to the receptacle 5 by a lock nut 23 which is interposed between the fitting and a collar 24 extending downwardly from the receptacle 5 and surrounding the opening 20.

15 The outer extremities of the fitting 20 are exteriorly threaded as shown at 25 and air pipes 26 are connected therewith by coupling sleeves 27, which are packed as shown at 28 to form air-tight joints. These air
 20 pipes 26 are suitably connected with a source of compressed air supplied by the air pump (not shown) mounted on the locomotive for supplying the air brake mechanism.

25 As illustrated in the drawing the upper extremity of the member 16 has an interiorly threaded socket 29 into which is screwed a cap 30 having perforations 31 which register with the perforations 17 of
 30 the member 16. Connected with the cap 30 are two tubes 32 which are in communication with the perforations 17 and extend upwardly, their free extremities entering the lower extremity of the sand supply pipe 7.
 35 These extremities are bent downwardly as shown at 33, whereby the air issuing therefrom is downwardly directed into the receptacle 5 for sand agitating purposes. Connected with the opposite sides of the
 40 member 16 are two nozzles 34 having ducts or passages 35 which communicate at their inner extremities with the perforations 17. The inner extremities 36 of these nozzles are reduced and exteriorly threaded to enter
 45 threaded openings 37 formed in the upright member 16. The outer extremities of the nozzles enter the inner extremities of the conduits 12.

When my improved device is in use it may
 50 be assumed that the receptacle 5 is filled with sand, since this receptacle is so connected with the sand box 8 that the sand enters the receptacle by gravity, hence it is supposed to be practically full at all times. Assuming
 55 that the receptacle contains a supply of sand and it is desired to use the same for track-sanding purposes, air is turned into the pipes 26 and passes therefrom through the fitting 20, the perforations 17 of the
 60 member 16, out through the nozzles 34, and also up through the tubes 32. The direct action of the air issuing from the outer extremities of the nozzles produces suction or
 65 the conduits 12 and acts to draw the sand

out of the receptacle 5, and subsequently acts to drive it through the pipes 12 to the rails of the track. A portion of the air which passes through the perforations 17 also enters the tubes 32 and issues from
 70 their upper extremities in downwardly directed jets which enter the receptacle 5, agitate the sand and prevent it from packing. This air also passes out into the conduits 12 and supplements the action of that issuing
 75 from the nozzles 34, as heretofore explained.

The neck 6 of the sand receptacle 5 is provided with an exteriorly protruding, downwardly projecting, open-ended pipe 39 forming a vent and having a tendency to
 80 keep the sand dry. This vent pipe also affords free entrance for the air in response to the partial vacuum produced by the discharge of air from the nozzles 34 into the conduits 12.

85 As illustrated in the drawing the front of the sand receptacle 5 is provided with a glass plate 40, which is held in place by a ring 41 detachably connected with the receptacle. By virtue of this construction the
 90 action of the sand within the receptacle may be clearly observed when the sander is in use. The removability of the ring is also an important feature, since it affords access to the interior of the receptacle whenever repairs
 95 to the mechanism located therein may become necessary.

Having thus described my invention, what I claim is:

1. In a track sander, the combination with
 100 a sand receptacle, means for supplying air to the receptacle under pressure, and a tube in communication with the source of air supply and extending upwardly into the
 105 receptacle and having its upper extremity bent downwardly for initially discharging air into the receptacle for sand agitating purposes, and conduits connected with the receptacle for delivering sand to the track
 110 rails, substantially as described.

2. A track sander comprising a sand receptacle connected with a suitable source of supply, nozzles centrally supported in the receptacle and projecting laterally in opposite
 115 directions, sand delivery conduits with which the nozzles communicate, said conduits being connected with the receptacle, tubes also supported in the receptacle and extending upwardly therein, the outer
 120 extremities of the tubes being bent downwardly, and means for supplying the nozzles and tubes with air under pressure, for the purpose set forth.

3. In a track sander, the combination of
 125 a sand receptacle in communication with a source of supply, of an upright perforated member carried by the receptacle, means for introducing air under pressure to the perforations of the said member, nozzles connected with the said member and projecting
 130

therefrom in opposite directions, the said nozzles being in communication with the perforations of the upright member, and means also connected with the said member and in communication with its perforations for delivering air initially into the receptacle for sand-agitating purposes, substantially as described.

4. The combination with a sand receptacle, of nozzles supported therein and extending in opposite directions, conduits connected with the receptacle on opposite sides and with which the said nozzles communicate, means for supplying the nozzles with air under pressure, and tubes extending upwardly in the receptacle and having their extremities curved downwardly, the said tubes being also connected with the source of air supply for delivering air initially into the sand receptacle for agitating purposes, substantially as described.

5. The combination with a sand receptacle suitably mounted, of a nozzle centrally located in the receptacle and horizontally disposed, means for supplying the nozzle with air under pressure, a sand delivery conduit also connected with the receptacle and in communication with the nozzle, and a tube also in communication with the source of air supply and extending upwardly into the receptacle and having its upper extremity bent downwardly for initially discharging air into the receptacle for sand-agitating purposes, substantially as described.

6. The combination with a sand receptacle, of an upright member mounted therein and having a longitudinally disposed perforation in communication with a source of air supply under pressure, a nozzle connected with the said member extending laterally therefrom and having a passage in

communication with the said perforation, and a tube connected with the said member extending upwardly therefrom and having its outer extremity bent downwardly, whereby it is adapted to discharge air initially into the sand receptacle for agitating purposes, substantially as described.

7. The combination with a sand receptacle, of an upright member centrally located in the receptacle, a nozzle extending laterally from the said member, the latter having a perforation and the nozzle a passage in communication with such perforation, means for delivering air under pressure to the perforation of the said member, and a tube connected with the upper extremity of the said member and in communication with the said perforation, the said tube being arranged to deliver air initially into the receptacle for sand-agitating purposes, substantially as described.

8. The combination with a sand receptacle, an upright member mounted therein and having a longitudinally disposed perforation in communication with a source of air supply under pressure, the perforation of the said member being in communication with the receptacle, and a tube connected with the said member extending upwardly therefrom and having its upper extremity bent downwardly, whereby it is adapted to discharge air initially in the receptacle for agitating purposes, substantially as described.

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

RICHARD KETT.

Witnesses:

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A. EBERT O'BRIEN.