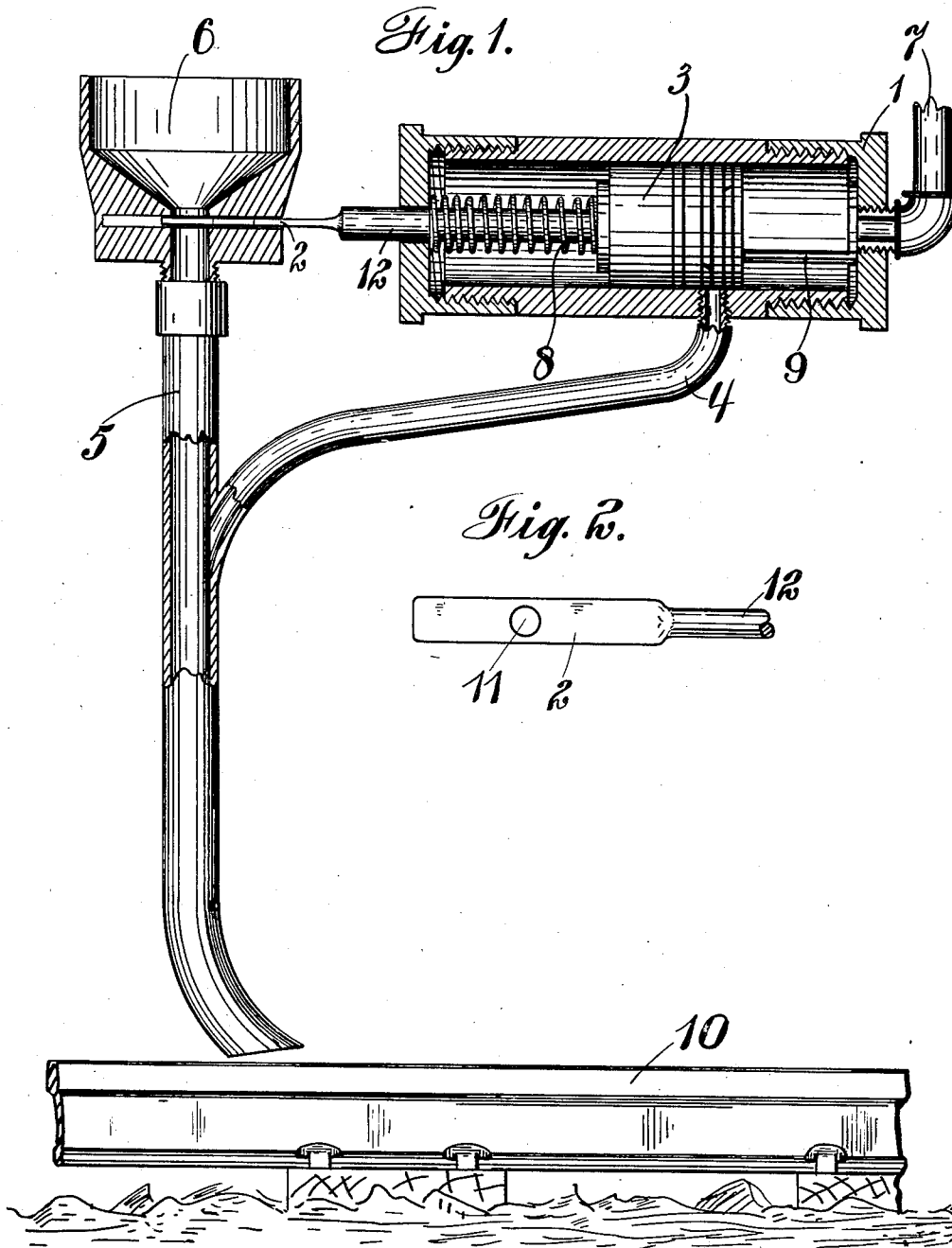


F. W. COLE.
 TRACK SANDER.
 APPLICATION FILED NOV. 16, 1908.

935,778.

Patented Oct. 5, 1909.



Witnesses
 David Solaris
 F. B. Griffin

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 Frank W. Cole
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UNITED STATES PATENT OFFICE.

FRANK W. COLE, OF SAN FRANCISCO, CALIFORNIA.

TRACK-SANDER.

935,778.

Specification of Letters Patent.

Patented Oct. 5, 1909.

Application filed November 16, 1908. Serial No. 462,909.

To all whom it may concern:

Be it known that I, FRANK W. COLE, a citizen of the United States, residing at San Francisco, San Francisco county, State of California, have invented a new and useful Track-Sander, of which the following is a specification in such full and clear terms as will enable those skilled in the art to construct and use the same.

10 My invention relates to track sanders, and has for its object to provide, in devices of the character, improved means for sanding tracks, that are capable of operating with imperfectly dry sand, that avoid the dampening of the sand by contact with compressed air used to drive the sand to the track, and to drive the sand positively to the track by means of fluids under pressure without dampening the sand that remains in the box.

20 I accomplish my objects by the means illustrated in the accompanying drawing, of which—

25 Figure 1 is a central vertical sectional view of my novel track sander, and Fig. 2 a detail view of a portion of the sand valve.

Generally expressed my invention comprises means for forcing sand from the sand box to the track with greater force than gravity, and means for preventing the dampening of the sand from the means employed to apply the force.

Referring to the drawing, the detail of means for forcing the sand to the track is shown in the pipe 7 which leads to the source of pressure, such as air or dry steam, air being preferable, compressed to the desired degree. Pipe 7 leads into cylinder 1 through a screw cap on one end thereof, and a piston 3 is arranged to move back and forth in said cylinder under the pressure of the air on one hand, and the pressure of spring 8, on the other when the air pressure is absent. The air pipe 7 is controlled by the usual air valve, not shown, which admits the air to the cylinder and releases it therefrom. The air pressure must be greater than the pressure of spring 8, so as to overcome it when the air is admitted.

50 A stop pin 9 limits the backward movement of piston 3. A piston rod 12 joins sand valve to piston, and is arranged so that valve port 11 in sand valve 2 allows sand to pass into sand pipe 5 from sand box 6, when piston 3 is pressed forward by air pressure from pipe 7.

Entering cylinder substantially at the point shown and the sand pipe at about the position indicated is a pipe 4. The said pipe is directed downwardly near its point of entrance into the sand pipe, so that a blast of air therethrough will be directed downwardly in sand pipe 5 toward track 10.

When piston 3 is moved forward by the admission of compressed air into cylinder 1, valve 2 is opened, and the sand in sand box 6 tends to drop into sand pipe 5, pipe 4 is opened behind piston 3. A blast of air enters sand pipe 5 creating a suction above it as between the point of its contact with pipe 4 and the sand box, which tends to draw the sand downwardly with a force greater than that of gravity, and acting on the sand after it has passed said point of contact with a force greater than gravity to drive it to the track.

The action of the compressed air in sand pipe 5 as arranged is so strong that damp sand can be worked with it; and I have worked sand successfully that had been and was at the time of working it mixed with considerable quantities of track oil and water, the downward pull of the compressed air in pipe 5 being sufficient to disintegrate the imperfectly dry sand.

85 In certain track sanders compressed air is used to drive the sand to the track. These devices however present the air in such a manner as to allow it to come into contact with the sand remaining in the box or sand pipes after the operation of sanding is finished. Compressed air is always charged with moisture, and when it comes into contact with sand it tends to cause it to pack, so as to work with difficulty. While my device is capable of handling damp sand, yet it is obviously better to keep the sand dry, such a condition facilitating the operation of any machine of the kind.

By my invention, the sand remaining in the apparatus never comes into contact with compressed air, and is therefore never moistened from that cause. I am enabled to attain this result by the arrangement of pipe 4 blowing a blast away from sand box 6, and blowing out all the sand in the pipe 5.

Having described my invention what I claim as new and desire to secure by Letters Patent of the United States is:

1. A track-sander comprising a sand-box, a sand-pipe leading therefrom, a valve controlling the flow of sand from said box, and

means external to said sand-box for operating said valve and for blowing an air blast downwardly in said sand-pipe from a point below said valve.

5 2. A track-sander comprising a sand-box, a sand-pipe leading therefrom, a valve controlling the flow of sand from said box and compressed air means external to said sand-box for operating said valve and for blowing
10 an air blast downwardly in said sandpipe from a point below said valve.

13 3. A track sander comprising a sand-bar, sand-pipe leading therefrom, a valve controlling the flow of sand from said box, a compressed-air cylinder external to said sand-box having an air educt orifice, a spring regulated piston in said cylinder normally closing said educt orifice and adapted to open

the same when moved by compressed air, an operative connection between said piston and 20 said valve, and a downwardly directed pipe connecting said orifice with said sandpipe at a point below said valve.

4. In a track sander, having a sand-box, a sand-pipe, and a valve, a compressed air 25 cylinder external to said sand-box having an educt pipe to said sand-pipe and a piston operatively connected with said valve and adapted to open and close said educt pipe.

In testimony whereof I have set my hand 30 this 4th day of November A. D. 1908, in the presence of the two subscribed witnesses.

FRANK W. COLE.

Witnesses:

F. P. MEDINA,
Z. G. MEDINA.