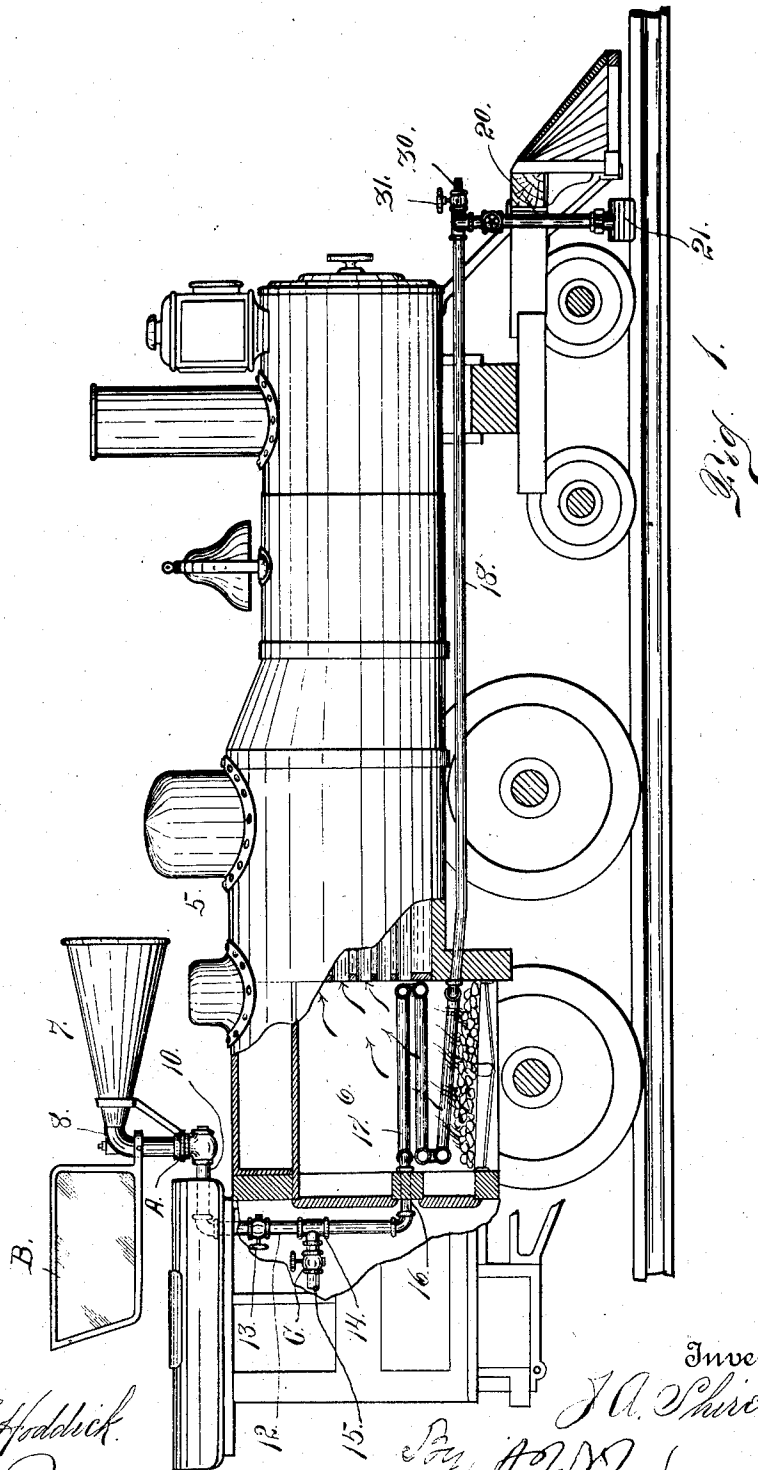


No. 893,878.

PATENTED JULY 21, 1908.

J. A. SHIRES.
TRACK CLEARING DEVICE FOR RAILROADS.
APPLICATION FILED DEC. 10, 1906.

2 SHEETS—SHEET 1.



Witnesses

Otto E. Haddock,
Dena Nelson,

Inventor

J. A. Shires.

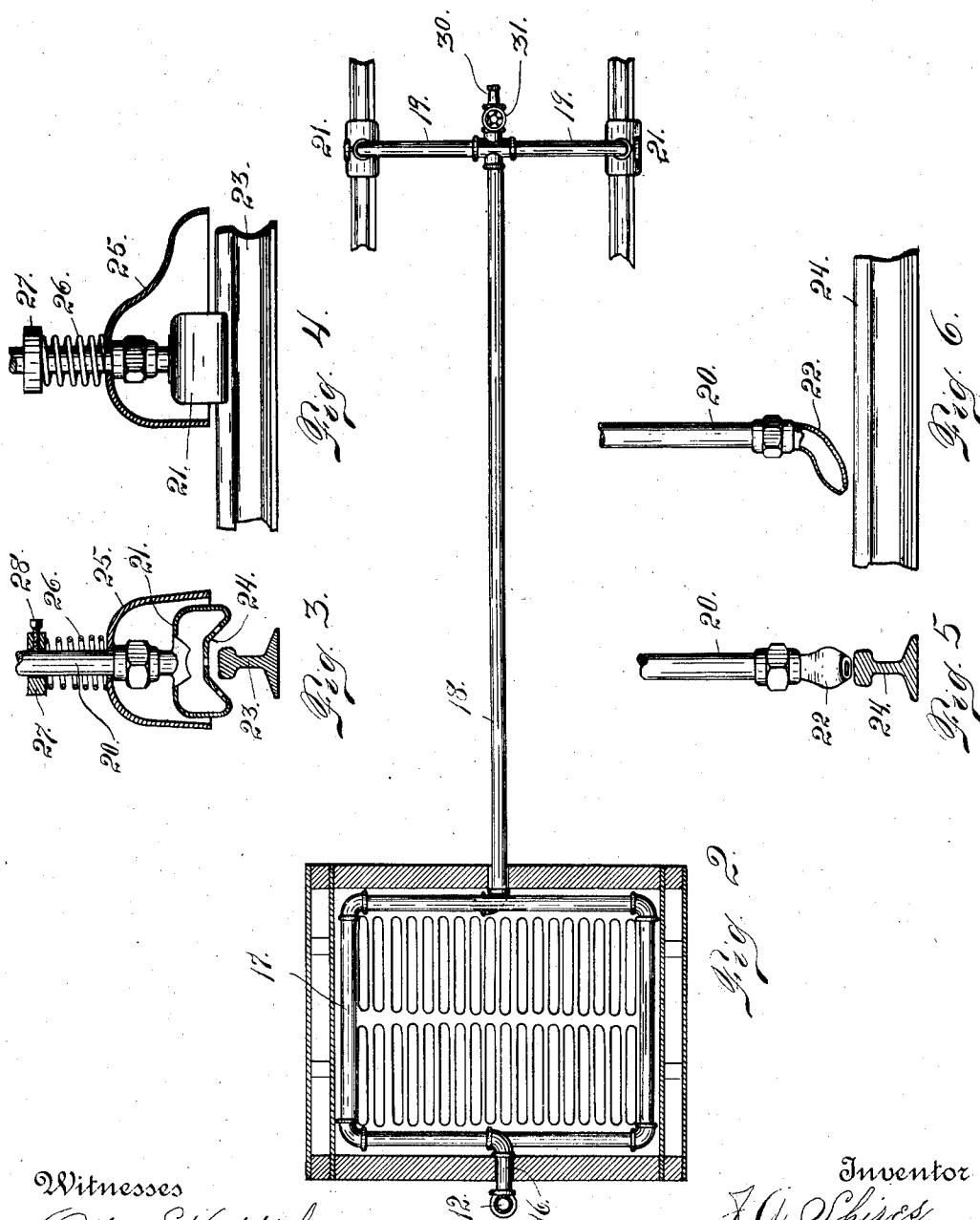
By A. W. Burt (Attorney)

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By A. W. Miller Attorney

UNITED STATES PATENT OFFICE.

JOSEPH A. SHIRES, OF DENVER, COLORADO.

TRACK-CLEARING DEVICE FOR RAILROADS.

No. 893,878.

Specification of Letters Patent.

Patented July 21, 1908.

Application filed December 10, 1906. Serial No. 347,200.

To all whom it may concern:

Be it known that I, JOSEPH A. SHIRES, 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-Clearing Devices for Railroads; 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 letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in means for removing obstacles from railway tracks such as ice, sand, snow or other articles which form obstructions thereon.

The invention includes means for delivering air or other fluid under pressure to the rails in front of the forward wheels of the engine or locomotive. In case ice or frozen snow is to be removed from the rails, the air or other fluid is delivered to the rails in a heated condition, and for this purpose I provide means for heating the air. The air may be either taken from the atmosphere by means of a forwardly directed funnel or it may be taken from a compressed air source mounted on the train.

Having briefly outlined my improved construction as well as the function it is intended to perform, 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 side elevation partly in section, of a locomotive equipped with my improvements. Fig. 2 is a fragmentary detail view showing the locomotive fire box in horizontal section, the air pipes and nozzles being illustrated in plan view. Fig. 3 is a section taken through one of the fluid delivery nozzles and the rail underneath. Fig. 4 is a side elevation of the same with the nozzle housing shown in longitudinal section. Fig. 5 is a section taken through the rail showing a modified form of air delivery nozzle. Fig. 6 is a side elevation of the same showing the nozzle in section.

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

Let the numeral 5 designate a locomotive provided with a fire box 6. As shown in the drawing a forwardly-directed funnel 7 is

mounted on the locomotive and terminates in an elbow 8 communicating with a conduit 10 having a vertical part 12 provided with a valve 13 and a union 14 which may be connected with a pipe 15 for the passage of compressed air or other fluid. The conduit 12 enters the fire box as shown at 16 and merges into a coil 17 located therein and communicating with a forwardly-extending conduit 18 having lateral branches 19 leading to downwardly directed pipes 20 terminating in nozzles 21 or 22 as the case may be. The nozzles 21 occupy positions directly above the track rails 23, each nozzle having a perforated bottom 24 occupying a position directly above the rail and inclined downwardly on opposite sides thereof.

In the form of construction shown in Figs. 1 to 4 inclusive, the nozzle is protected by a housing 25 acted on by a coil spring 26 whose upper extremity engages a stop 27 adjustably mounted on the pipe 20 by means of a set screw 28. By virtue of the adjustability of the stop 27, the normal tension of the spring 26 may be regulated at will. The housing 25 holds the nozzle from atmospheric influences and facilitates the application of the fluid employed to the desired point namely upon the rail. The form of nozzle shown in Figs. 1 to 4 inclusive is more especially intended for use where it is desired to warm the rail either for the purpose of thawing ice or snow, or for moderating or raising the temperature of the rail to prevent the possibility of breakage due to conditions existing in very cold weather when the rails are said to be full of frost. The form of nozzle shown in Figs. 5 and 6 is more especially intended for use where compressed air is employed for removing obstacles from the track. By using a strong current of air, obstacles of considerable size may be advantageously removed from the rails by the use of nozzles 22 which are supposed to be forwardly directed and located in front of the forward wheels of the truck, the same as the other construction of nozzle.

From the foregoing description the use of my improved device will be readily understood. The funnel 7 is swiveled at A and is provided with a vane B, whereby the funnel may at all times be directed toward the wind. The air as heretofore intimated may be taken in through this funnel producing a sort of natural draft; or compressed air from a suitable source on the train may be employed

taking the same through the pipe 15, a valve C being opened for the purpose. Where it is desired to heat the air, the temperature of the same is raised to a suitable degree by passing it through the coil 17 located in the fire box as shown in Figs. 1 and 2. If it is not desired to heat the air, the conduit need not pass through the fire box. In removing obstacles from the track by the use of compressed air the heating of the latter of course is not necessary.

The pipe system is provided with a nozzle 30 in alinement with the conduit 18 and located forward of the branch pipes 19. Immediately in the rear of this nozzle is located a valve 31. By connecting a hose with this nozzle and opening a valve 31, hot air may be employed for thawing out switches or for use in connection with other devices adjacent the track.

Having thus described my invention, what I claim is:

1. The combination with a locomotive or other similar vehicle, of a nozzle mounted thereon and occupying a position above the track rail, a spring-retained housing inclosing the nozzle, and a pipe system connected with the air source and communicating with the said nozzle, a portion of said system being located within the fire box, whereby the fluid delivered to the rails may be suitably heated, substantially as described.

2. The combination with a locomotive or similar vehicle, of nozzles mounted thereon and occupying positions above the track rails, the nozzles being arranged to deliver fluid to the rails, and a pipe system con-

nected at one extremity with a fluid pressure supply source and at the other extremity with the nozzles, and spring-retained housings inclosing the nozzles, substantially as described.

3. The combination with a locomotive or similar vehicle, of a nozzle mounted thereon and occupying a position adjacent a rail of the track, means connected with said nozzle for delivering fluid thereto under pressure, and a spring-retained housing inclosing the nozzle for the purpose set forth.

4. In apparatus of the class described, the combination of a locomotive or similar vehicle, nozzles mounted thereon and occupying positions directly above the track rails, a pipe system communicating with said nozzles at one extremity, and a funnel-shaped air receiver communicating with the system at its opposite extremity, the said receiver being swiveled and provided with a vane for maintaining it in proper position with reference to the direction of the wind, substantially as described.

5. The combination with a locomotive or similar vehicle, of a nozzle mounted thereon and occupying a position adjacent a rail of the track, means connected with said nozzle for delivering fluid thereto under pressure, and a spring-retained housing inclosing the nozzle for the purpose set forth.

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

JOSEPH A. SHIRES.

Witnesses:

A. J. O'BRIEN,
DENA NELSON.