Aug. 3, 1926. 1,594,709

C. L. BUBB ET AL

RAILWAY CLEANING DEVICE

Filed August 12, 1922 2 Sheets-Sheet 1

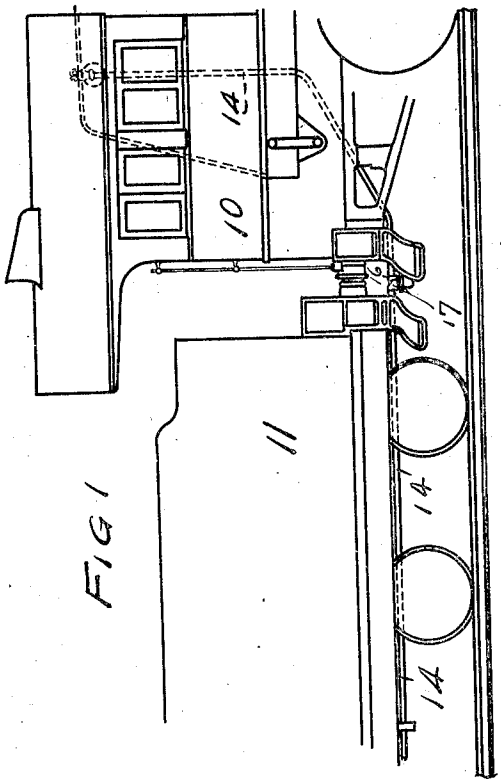


FIG 1

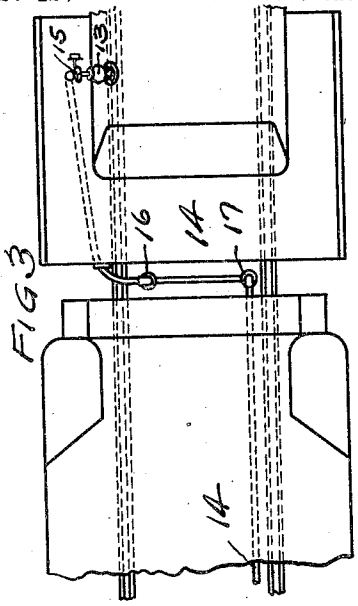


FIG 3

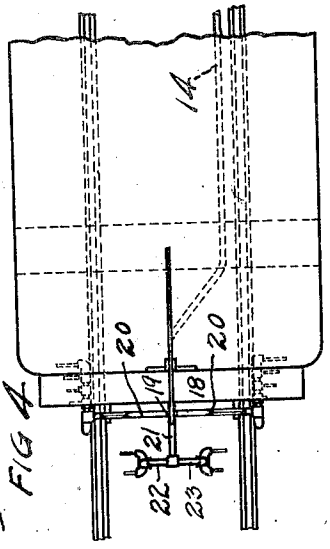


FIG 4

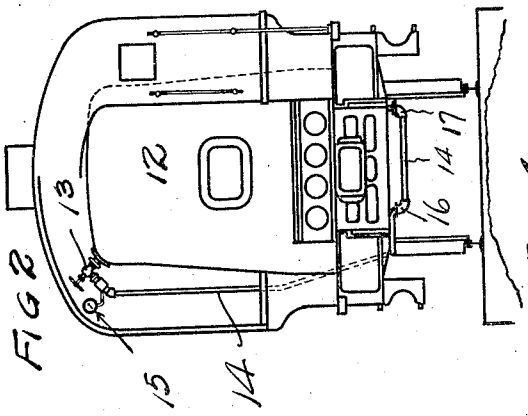


FIG 2

Inventors

CHAS. L. BUBB
GEO M. THOMAS.

By N. E. Lee

Attorney

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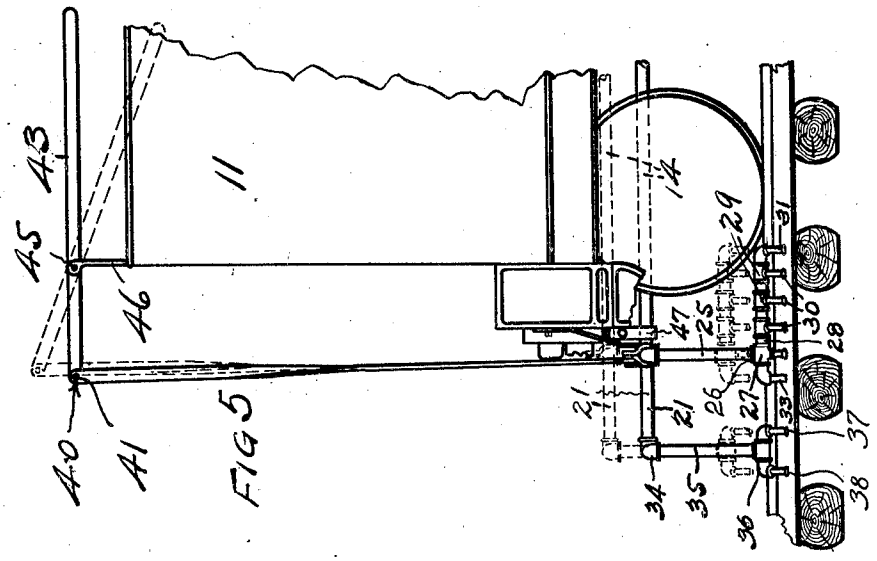


FIG 5

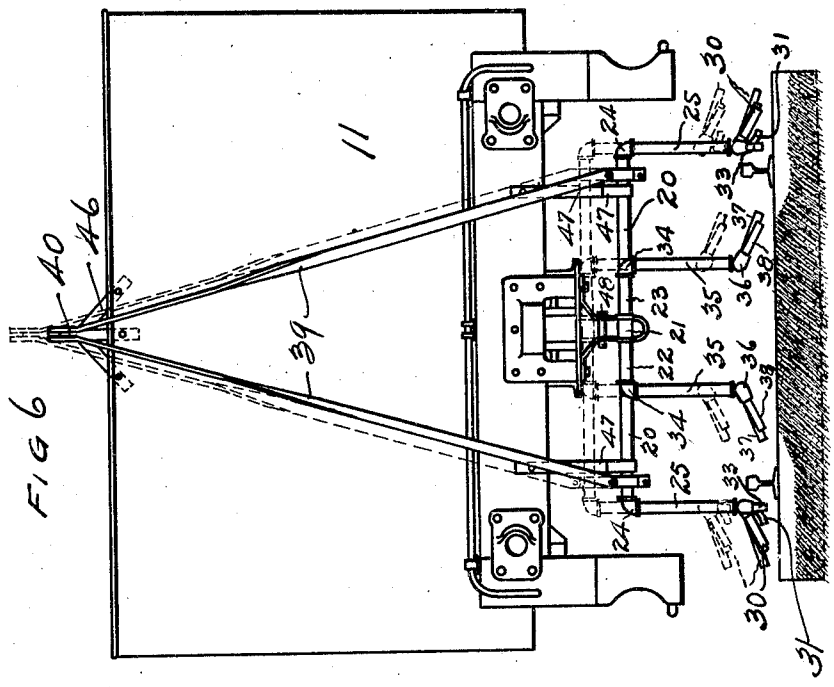


FIG 6



FIG. 7

Inventors

CHAS L. BUBB

GEO. M. THOMAS.

By N. E. Lee

Attorney

Patented Aug. 3, 1926. 1,594,709

UNITED STATES PATENT OFFICE.

CHARLES L. BUBB, OF WILLIAMSPORT, AND GEORGE M. THOMAS, OF SUNBURY, PENNSYLVANIA.

RAILWAY-CLEANING DEVICE.

Application filed August 12, 1922. Serial No. 581,542.

This invention relates to railways and has for its primary object an improved means for removing ballast, snow, and other objects from the rails and ties of a railway.

Another object of this invention is to provide a fluid pressure system in combination with a plurality of nozzles, arranged such that the track and ties are thoroughly cleansed from ballast and other movable material while the cleansing device is moved along the rails.

A further object of this ballast removing device is to provide means in combination with a steam locomotive and tender for conducting steam through a plurality of steam jets which are positioned at varying angles with the track and road bed.

With these and many other objects in view which will be more readily apparent as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangement of parts as will be hereinafter fully pointed out, illustrated and claimed.

It will be quite readily apparent to those skilled in the art to which this invention belongs that the same is quite susceptible to various changes and modifications without departing from the spirit or scope of the invention, but a thoroughly practical and preferred arrangement is shown in the accompanying drawings in which—

Figure 1 is a side elevational view of a portion of a locomotive and tender having the present invention applied thereto.

Figure 2 is a rear end elevation of a locomotive and cab, and shows the position on the boiler from which steam is obtained to use in the nozzles.

Figure 3 is a plan view of the parts shown in Figure 1, a portion of the cab being removed.

Figure 4 is a plan view of a portion of the rear end of the locomotive tender showing the position of the various steam nozzles with reference to the track.

Figure 5 shows a side elevational view of a portion of the tender and illustrates the manner of positioning the nozzles in alinement with the track.

Figure 6 shows a rear end elevational view of the tender shown in Figure 5 of the drawings and shows the operative and inoperative positions of the nozzles as well as their inclination to the track and road bed.

Figure 7 shows the manner of making the nozzle.

Similar reference numerals refer to similar parts throughout the several figures of the drawings.

In carrying out this invention no change is made in the usual design of the steam locomotive designated in its entirety by the numeral 10 or the tender 11. The locomotive boiler designated by the numeral 12 is provided with a starting valve 13, which controls the flow of steam into the pipe 14 which has attached thereto a steam gage 15. The pipe 14 continues downward and back between the engine and tender where it is clamped in position and its free end is provided with a flexible pipe joint 16, preferably of the Barco type. The pipe 14 continues across transversely of the locomotive and tender and is provided with a second flexible joint 17, which permits the piping on the tender to swing with reference to the piping on the locomotive.

From the flexible joint 17 the steam pipe 14 continues back beneath the tender and emerges from beneath the draft appliance as shown in Figure 6 of the drawings. Immediately beneath the draft appliance 18 the pipe 14 terminates in a cross fitting 19. To the cross fitting 19 two transverse pipes 20 are secured together with an additional longitudinal pipe 21, to which is attached through a T fitting the transverse pipes 22 and 23 as shown in Figure 6 of the drawings.

The pipes 20 are each provided with an elbow 24 from which depends a pipe 25 having attached to its lower end 26 a fitting 27 attached to which is a pipe nipple 28 with a plurality of T fittings 29 extending therefrom. Each T fitting 29 is provided with a nozzle 30, which in this particular installation is made of a ¾″ pipe having the ends slightly flattened such that the issuing steam forms a sheet as it issues from the nozzle.

The end nozzle 31 is shown as attached to a service L which is itself attached to a pipe fitting 32 as shown in Figure 5 of the drawings. Each of the nozzles 30 and 31 are differently inclined with reference to the road bed while the nozzle 33 is positioned so that the issuing steam is projected straight downward so as to cut the ballast and cinders alongside the rail while the inclined nozzles take the loose ballast away from the track. The pipes 22 and 23 are each like-

wise provided with an angle fitting 34, from which depends a pipe 35, to the lower end of which is attached a T fitting 36, into which is adapted to be fitted a service L which carries a nozzle 37 made from a ¾" pipe, the end of which is flattened to ⅝" as shown in Figure 7 of the drawings.

The nozzles 37 and 38 are each set at a slightly different angle from the other, which has been found to assist materially in removing ballast and cinders from beneath and around the rails.

For the purpose of carrying the piping, together with the nozzles at the back of the tender there is provided a yoke designated by the numeral 39, which consists primarily of a plurality of iron bars arranged like an inverted V, the apex 40 being provided with a lever and pin connection 41, the end 42 of a lever 43 being sandwiched between the plates which form the yoke or V. The lever 43 is provided with a fulcrum 45 which is positioned on a bracket 46, attached to the rear of the tender as shown in Figure 5 of the drawings. A plurality of safety bars 47 is provided to hold the piping in case the V yoke becomes defective.

When the piping and nozzles are raised to the position as shown in the dotted lines, a pin 48 is placed beneath the pipe 14 thus allowing the lever 43 to float without carrying any weight whatsoever. Flexibility in the joint 17 makes it unnecessary to provide additional facilities for permitting the pipes to be raised to their inoperative position.

Having thus described our invention, what we claim and desire to be secured by Letters Patent is—

An apparatus for removing snow from railroad tracks adapted to be carried on railway cars, comprising inner and outer sets of nozzle devices arranged respectively between and outside of the rails of the trackway, and both sets of nozzle devices discharging laterally outwardly and downwardly toward the edges of the road bed, and means for raising and lowering said nozzles with reference to the trackway whereby the heights thereof may be adjusted according to the depth of the snow.

In testimony whereof they affix their signatures.

CHARLES L. BUBB.
GEORGE M. THOMAS.