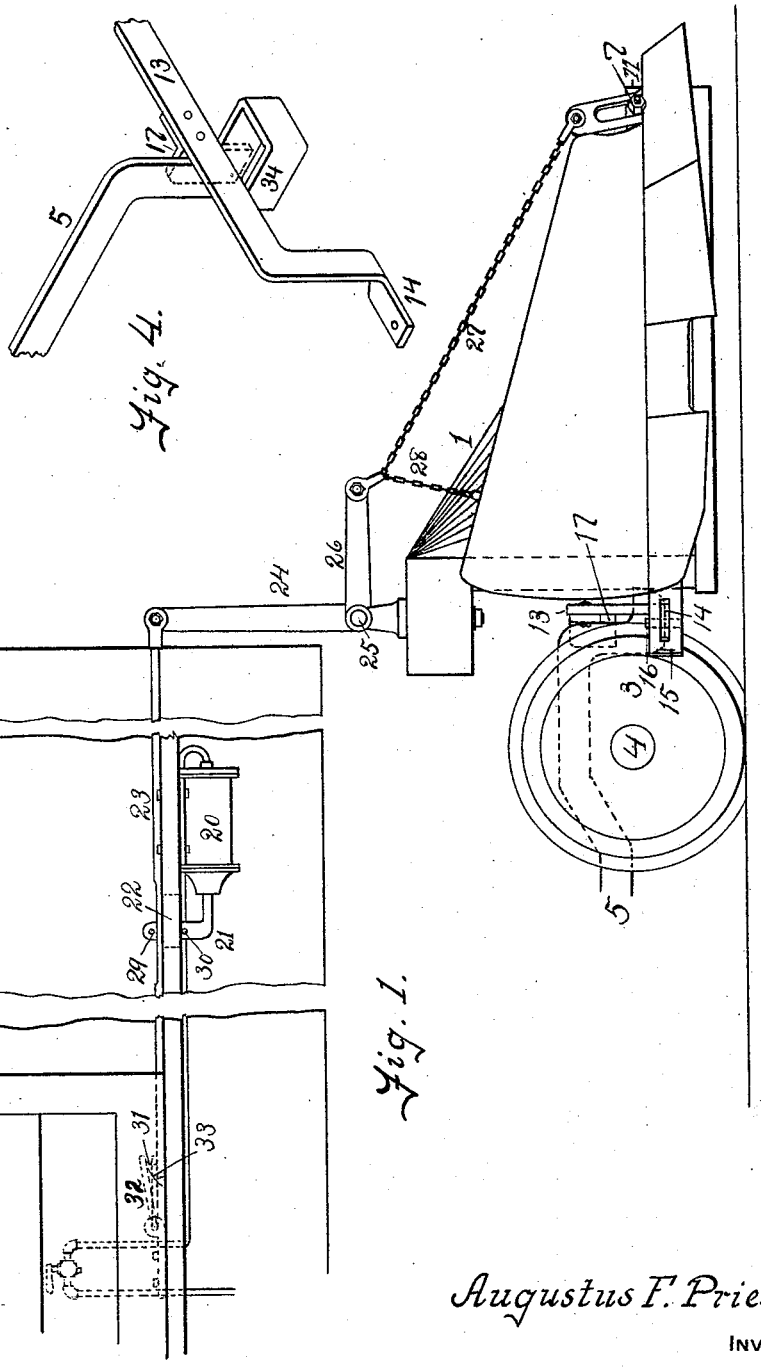
(No Model.) 2 Sheets—Sheet 1.

A. F. PRIEST.

RAILWAY TRACK CLEANER.

No. 455,724. Patented July 7, 1891.



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(No Model.) 2 Sheets—Sheet 2.

A. F. PRIEST.

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Fig. 2.

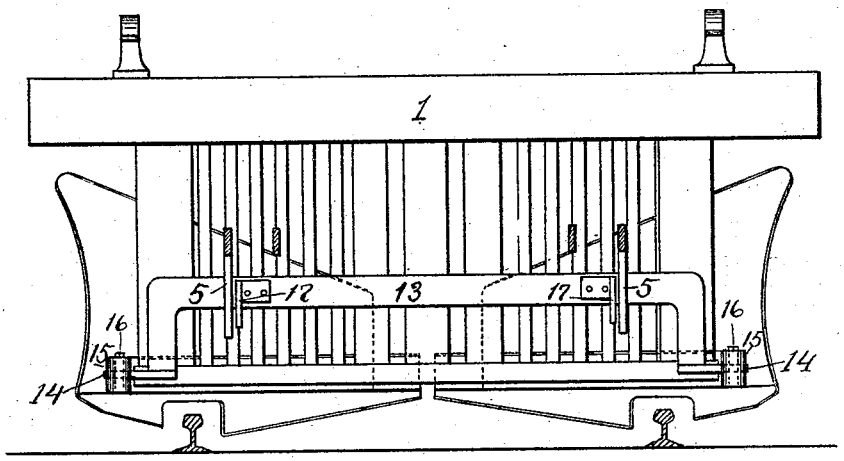


Fig. 3.

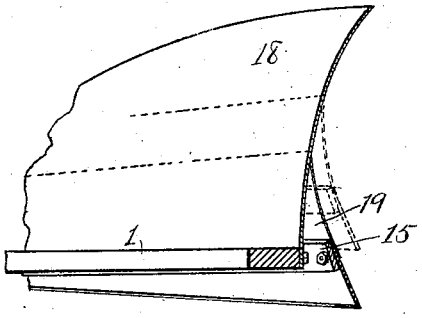
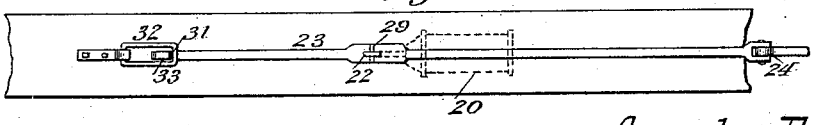


Fig. 5.



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INVENTOR:

WITNESSES:

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UNITED STATES PATENT OFFICE.

AUGUSTUS F. PRIEST, OF WEST SUPERIOR, WISCONSIN.

RAILWAY-TRACK CLEANER.

SPECIFICATION forming part of Letters Patent No. 455,724, dated July 7, 1891.

Application filed November 3, 1890. Serial No. 370,152. (No model.)

To all whom it may concern:

Be it known that I, AUGUSTUS F. PRIEST, a citizen of the United States, residing at West Superior, in the county of Douglas and State of Wisconsin, have invented certain new and useful Improvements in Railway-Track Cleaners; 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 figures of reference marked thereon, which form a part of this specification.

This invention relates to devices for clearing railway-tracks of snow, ice, or earth, and has for its object to provide a simple, inexpensive, and efficient device of this character adapted for support on a locomotive-engine pilot and forward truck, and so constructed as to clear the track entirely across between the rails and below the level of the tread of the same without danger of touching them or displacing signal torpedoes placed thereupon.

The invention is in the nature of an improvement upon that described in Letters Patent No. 398,347, granted to me February 19, 1889, for track-cleaners; and it consists, generally, in the improved means for preventing the lateral movement of the track-cleaner, with reference to the forward truck of the engine, in the means employed for controlling the raising and lowering of the same from the cab, and in a special construction of the cleaner, whereby it may be employed in combination with the ordinary pilot snow-plow for the removal of heavy obstructions from the track, as in deep snow and the like.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the pilot and adjacent running-gear of a locomotive-engine with my improved track-cleaner applied, showing also the manner of controlling the operation of the same from the cab. Fig. 2 is a rear view of the pilot, showing the manner in which the frame of the track-cleaner is prevented from lateral movement with reference to the forward truck; Fig. 3, a partial sectional view of one side of the pilot and knife-bar, showing the modified construction employed when the clearer is to be used in connection with the ordinary pilot snow-plow; and Fig. 4, a detail showing the form of the extremity of one of the equalizer-bars for supporting the clearer upon a pilot of unusual width. Fig. 5 is a detail view of the operating mechanism.

The principal parts of the apparatus are constructed in the same manner as shown and described in my former Letters Patent above referred to.

The engine-pilot 1 is of any ordinary construction supported in the usual manner from the frame of the engine, which rests upon the forward truck having the front wheels 3, the axle 4 of which is journaled in boxes on which rest the equalizing-bars 5 of the same.

The track-clearer is supported from the pilot in the same manner as described in said former patent, in front by means of bolts 7 7 passing through slots in upward front extensions of the cleaner-frame, and which bolts are secured in the nose-piece 11 of the pilot, and in the rear by the equalizer-bars 5 5, upon which the rear frame of the cleaner rests. To the front of the frame and to the rear of the same are secured lifting-chains, which pass upwardly and connect with arms secured to a rock-shaft journaled preferably upon the pilot-beam and having operative connection with the cab, as will be hereinafter described. By operating the rock-shaft both the front and rear ends of the device are raised to clear the track of any obstruction thereupon whenever necessary or desirable. The rear portion of the frame consists, preferably, of a single wrought-metal bar 13, extending across from one side of the truck to the other and resting upon the extremities of the equalizer-bars 5, which may be extended for that purpose. The extremities of this bar 13 are bent down, preferably at right angles to the body of the bar, and the ends 14 again bent so as to lie parallel to the body of the bar at a point considerably nearer the ground. These outwardly-bent extremities of the bar pass through slots in the extremities of the knife-bars 15, and are held in place so as to allow a little play therein by means of pins 16, screwed into the end of the bar.

In the construction shown in said former

patent the lateral movement of the frame is prevented by means of bars or plates secured to the frame and overlapping the wheels or the ends of the axle. As a more convenient and simple method of accomplishing the same result, there are formed upon or secured to the rear bar 13 two downwardly-extending lugs 17, which lie just inside the extremities of the equalizer-bars and prevent lateral movement, while still being free to raise and lower with reference thereto as the frame is raised or lowered. The knife-notches are thus always maintained in proper position with reference to the sides of the rails, the relative lateral positions of the wheels and equalizer-bars always remaining the same.

It may be of advantage at times to employ the track-cleaner herein described in connection with the ordinary pilot snow-plow, as in case of deep snow, when a greater degree of strength is obtained, the plow being bolted rigidly to the pilot. This construction is shown in Fig. 3, in which the plow 18 is represented as bolted solidly to the pilot and the knife-bars 15 are hung in the same manner, as before described, outside the plow. In this construction a continuous surface is formed between the knives of the cleaner and the plow side by means of a flexible plate 19, secured to the upper edges of the knife-bars and overlapping the plow side. When the knife-bars are lowered, the plate 19 lies against the plow side, and when raised the flexibility of the plate allows its edge to follow the curvature of the plate, as shown in the drawings in dotted lines, pressing closely against the same, thus forming a continuous curvature from the edge of the knives to the top of the plow without in any manner preventing the free raising and lowering of the knives.

For operating the apparatus from the cab any desired arrangement may be employed. I have, however, shown a cylinder 20, secured upon the side of the engine, preferably underneath the running-board, to the piston of which is secured one arm of an elbow-shaped piston-rod 21, whose other arm passes upwardly through a longitudinal slot (indicated in dotted lines at 22) in the running-board. Along the running-board lies a rod 23, one end of which enters the cab and the other end of which is attached to a radial arm 24, secured upon the rock-shaft 25, journaled upon the pilot-beam. To another arm upon said rock-shaft, as 26, extending preferably at right angles to the former arm, are secured the lifting-chains 27 28, connected, respectively, to the front and rear ends of the frame, by means of which the knife-bars are lifted. The vertical portion of the piston-rod 21 extends through a slot in the rod 23, and is retained in place therein by a pin 29, passing through the same above the rod, while another pin 30, passing through the arm underneath the running-board, forms an under side guide, preventing the jumping of the arm when power is applied. The end of the rod 23 entering the cab is provided with a hook 31, and a link or catch 32 is fixed within the cab in position to drop over the hook when the rod is pushed inwardly, thus holding the apparatus in a raised position. The end of the rod forming the hook has an inclined upper surface, as shown at 33, so that the link or catch is raised by the entrance of the rod and falls of its own weight, thus automatically locking the rod. The action of the piston in the cylinder may be controlled in any ordinary manner by appliances within the cab, the power for operating the piston being furnished by the use of air or steam. It is desirable that the rear frame of the clearer should be supported at points as widely apart as possible, in order to prevent any rocking movement of the same from side to side, and in case of engines having an unusually wide pilot, thus necessitating a correspondingly-greater speed of the knife-bars, it may be of advantage to use the construction shown in Fig. 4. The increase in distance apart of the supporting-points is gained by extending the extremities of the equalizer-bars 5 and bending the same outwardly, and at a short distance from the first bend making a second turn toward the rear, as shown at 34, to form a bearing-point for the frame at a point outside the plane of the body of the bars. An increase in distance apart of the bearing-points is thus made upon each side, thereby greatly diminishing the tendency of the cleaner-frame to rock from side to side. This construction is, however, only necessary in the case of a pilot of unusual width. If desired, the support may be formed by means of a bracket secured to the ends of the equalizer-bars.

The construction and operation of other parts of the apparatus are substantially as in the former patent cited, and hence no detailed description is here given.

I claim as my invention—

1. Railway-track cleaners consisting of knife-plates held at the sides of the engine-pilot, and guide-lugs formed upon or secured to the cleaner-knife supports and resting against the sides of the equalizer-bars of the forward truck of the engine, substantially as specified.

2. Railway-track cleaners consisting of knife-plates held at the sides of the engine-pilot, and guide-lugs formed upon or secured to the cleaner-knife-supporting frame and resting against the inner sides of the forward extremities of the equalizer-bars of the forward truck of the engine, substantially as specified.

3. Railway-track cleaners consisting of knife-plates held at the sides of the engine-pilot and supported therefrom at their forward ends and supported at their rear ends from the equalizer-bars of the forward truck of the engine, and guide-lugs formed upon or secured to the rear part of the cleaner-plate

supports and resting against the sides of the equalizer-bars, as and for the purpose specified.

4. Railway-track cleaners consisting of knife-plates held at the sides of the engine-pilot and supported therefrom at their forward ends and supported at their rear ends from outwardly-projecting side extensions formed upon or secured to the forward extremities of the equalizer-bars of the forward truck of the engine, substantially as specified.

5. The combination, in railway-track cleaners and with the engine-pilot, of knife-carrying bars having slots in the front extremity thereof, bolts passing through said slots into the nose of the pilot, a rock-shaft on the engine, chains connecting the front and rear ends of said bars to said shaft or to arms thereon, rear bar or frame supported by the forward extremities of the equalizer-bars of the forward truck of the engine and connected with the rear extremities of said knife-carrying bars, a radial arm extending upwardly from said rock-shaft, a rod connected with the extremity of said radial arm, a cylinder having its piston connected with said rod, and means for supplying power for the operation of said piston, substantially as specified.

6. The combination, in railway-track cleaners and with the engine-pilot, of knife-carrying bars having slots in the front extremity thereof, bolts passing through said slots into the nose of the pilot, a rock-shaft on the engine, chains connecting the front and rear ends of said bars to said shaft or arms thereon, a rear bar or frame supported on the forward ends of the equalizer-bars of the forward truck of the engine and connected with the rear extremities of said knife-carrying bars, a radial arm extending upwardly from said rock-shaft, a rod connected with the extremity of said radial arm and extending along the running-board of the engine into the cab, a hook formed upon the inner end of said rod, a catch for automatically grasping said hook when in its innermost position, a cylinder having its piston connected with said rod to reciprocate the same in unison with said piston, and means for supplying power for the operation of said piston, substantially as specified.

7. Railway-track cleaners consisting of knife-plates held at the sides of the engine-pilot and supported therefrom at their forward ends and supported at their rear ends upon the equalizer-bars of the forward truck of the engine, a rock-shaft upon the engine, chains connecting the front and rear ends of the frame-work carrying said knife-plates with said rock-shaft or arms secured thereto, an upright radial arm upon said rock-shaft, a rod connected at one extremity to said radial arm, a cylinder having its piston connected with said rod, and means for supplying power to said cylinder for operating said piston, substantially as specified.

8. The combination, with an engine-pilot and snow-plow plates secured rigidly to the sides thereof, of bars extending along the sides of the pilot outside of said plates and adjustable vertically with reference thereto, knife-plates secured to said bars adapted when lowered to clear the space between the rails, and flexible plates secured to said bars and overlapping said snow-plow plates, substantially as and for the purpose herein specified.

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

AUGUSTUS F. PRIEST.

Witnesses:
T. G. RUSSELL,
R. O. LAZIER.