

No. 834,925.

PATENTED NOV. 6, 1906.

J. MINTURN.
ATTACHMENT FOR LOCOMOTIVES.

APPLICATION FILED FEB. 1, 1905.

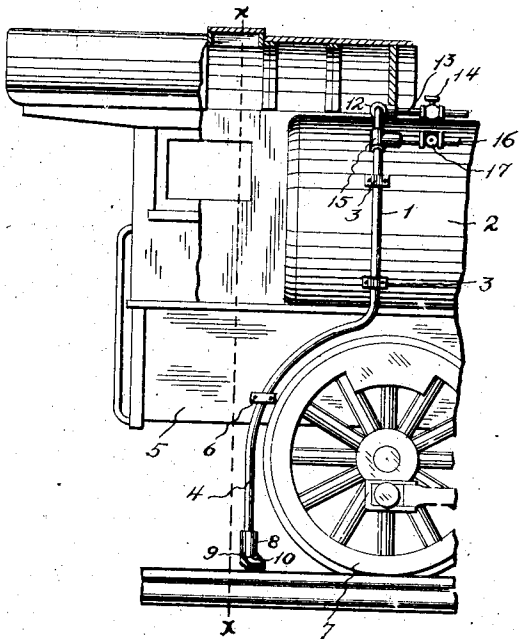


Fig. 1.

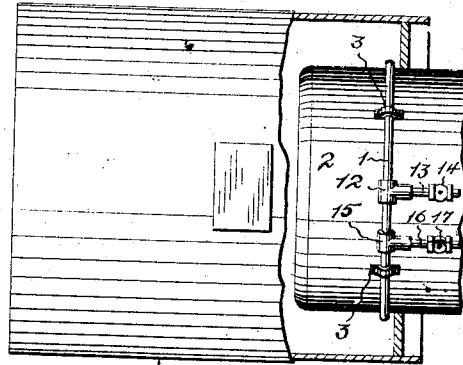


Fig. 2.

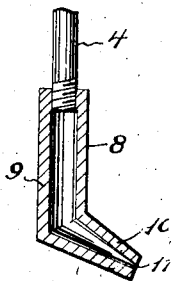


Fig. 5.

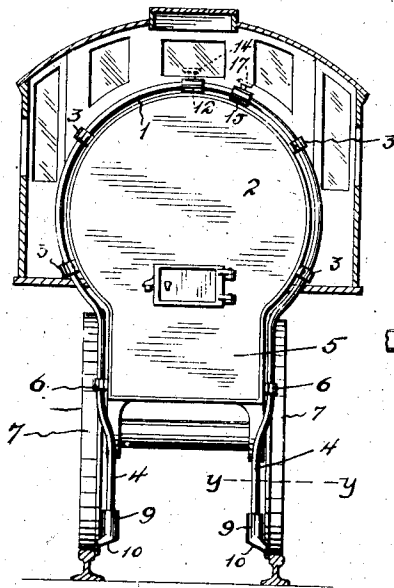


Fig. 3.

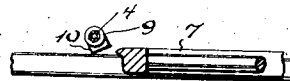


Fig. 4.

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UNITED STATES PATENT OFFICE.

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ATTACHMENT FOR LOCOMOTIVES.

No. 834,925.

Specification of Letters Patent.

Patented Nov. 6, 1906.

Application filed February 1, 1905. Serial No. 243,852.

To all whom it may concern:

Be it known that I, JOHN MINTURN, a citizen of the United States, residing at Grogan, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Attachments for Locomotives, of which the following is a specification.

My invention relates to a new and useful improvement in attachments for locomotives.

It is a well-known fact that in ascending grades it is often necessary to apply sand to the tracks in order to prevent the driving-wheels of the locomotive from slipping. It has also been found that the sand placed upon the track causes the train to drag and increases the load, thus diminishing the power of the locomotive and often making it necessary to use two or more locomotives for pulling a heavy train up a grade.

It is therefore the object of my invention to provide suitable means for removing the sand from the rails after the rear driving-wheels have passed over the same.

It is also the object of the invention to force the sand away from the rails and to each side of the track and to provide means requiring but little attention and one in which the wear and tear is reduced to a minimum.

Finally, the object of the invention is to provide a device of the character described that will be strong, durable and efficient, and one which will be comparatively simple and inexpensive to produce and apply.

With the above and other objects in view the invention consists of the novel details of construction and operation, a preferable embodiment of which is described in the specification and illustrated in the accompanying drawings, wherein—

Figure 1 is a partial side elevation of the rear portion of a locomotive, showing a part of the cab broken away to illustrate the invention. Fig. 2 is a plan view of the parts shown in Fig. 1. Fig. 3 is a transverse vertical sectional view taken on the line $x x$ of Fig. 1. Fig. 4 is a horizontal sectional view taken on the line $y y$ of Fig. 3 and showing the rail in plan, and Fig. 5 is a vertical sectional view of one of the nozzles.

In the drawings the numeral 1 designates a continuous tube or pipe curved around the

rear portion of the boiler 2 and securely held in position thereon by any suitable means, such as hangers 3. The pipe 1 has its free ends 4 extending downward close to the fire-box 5 and supported therefrom by suitable hangers 6. The lower ends 4 are bent inward, as shown in Fig. 3, so as to stand between the rails, and are also curved rearwardly, as shown in Fig. 1, and thus occupy a position to the rear of the rear driving-wheels 7. The extreme lower ends of the lower portions 4 of the pipe 1 are preferably screw-threaded, as shown in Fig. 5, so as to receive the vertical portion 8 of the nozzle 9. The nozzle 9 comprises a mouth portion 10, extending downwardly at an obtuse angle from the vertical portion 8 and formed with a contracted opening 11, so as to deliver a fluid in a fine sheet or spray. A nozzle 9 is secured upon the lower end of each portion 4 of the pipe 1, which portions terminate some distance above the rails, so that the nozzles may be disposed a sufficient distance above the tread of the rail as to direct the fluid thereon and blow the sand off the tread. The nozzles 9, being arranged between the rails, as shown in Fig. 3, and pointing in opposite directions, are set at an angle, so as to deliver the fluid forwardly and diagonally across the tread of the rail.

Any suitable fluid under pressure, such as steam or air, may be used, and I have shown the pipe 1 at its upper end provided with a T-coupling 12, which is connected to a steam-supply pipe 13, provided with a suitable valve 14. Dry steam may be taken from any suitable point to the supply-pipe 13 and delivered to the pipe 1, through which it will pass downward to the lower portions 4 and out of the openings 11 of the nozzles 9. It is obvious that the steam will be ejected from the nozzles 9 with considerable force and, blowing diagonally across the tread of the rails, will clear the sand therefrom after the rear drivers 7 have passed over the same. Dry steam being used, there is no chance of the waters of condensation freezing on the rails.

In lieu of steam compressed air may be used, and for this purpose I have provided in the pipe 1 a second T-coupling 15, from which extends a supply-pipe 16, also provided with a valve 17. Of course it is to be understood that when compressed air is being used the valve 14 of the steam-supply

pipe 13 is turned to cut off the supply of steam, and, vice versa, when steam is being used the valve 17 of the air-supply pipe 16 is turned to cut off the air.

5 It is to be understood that my invention is not to be limited to the exact construction shown, as the steam or air may be directed on the treads of the rails in any suitable manner, and the construction herein set forth is
10 merely a practical illustration.

The operation, briefly, is as follows: Either air or steam, being delivered to the pipe 1, as hereinbefore described, passes to
15 and through the lower portions 4 to the nozzle 9, from which it is directed at an angle downwardly and diagonally across the treads of the rails, thus blowing off the sand, which, as is obvious, has been delivered in front of
20 the forward drivers. By such an arrangement the drivers are given purchase on the rails and are prevented from slipping, while the sand is blown from the rails immediately

after the rear drivers pass over that portion of the rails containing the same, and clear and clean rails are presented to the wheels of
25 the tender and the train, thus decreasing the load and preventing dragging.

Having now fully described my invention, what I claim, and desire to secure by Letters Patent, is—

30 In a rail-cleaning device, the combination with a locomotive, of a pair of nozzles located between the rails and directed at an angle thereto, a single continuous pipe extending from one nozzle to the other over and about
35 each side of the boiler, a fluid-supply pipe having connection with said continuous pipe.

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

JOHN MINTURN.

Witnesses:

A. L. PHELPS,
M. B. SCHLEY.