

(No Model.)

F. T. CHASE.
SANDING DEVICE FOR LOCOMOTIVES.

No. 522,148.

Patented June 26, 1894.

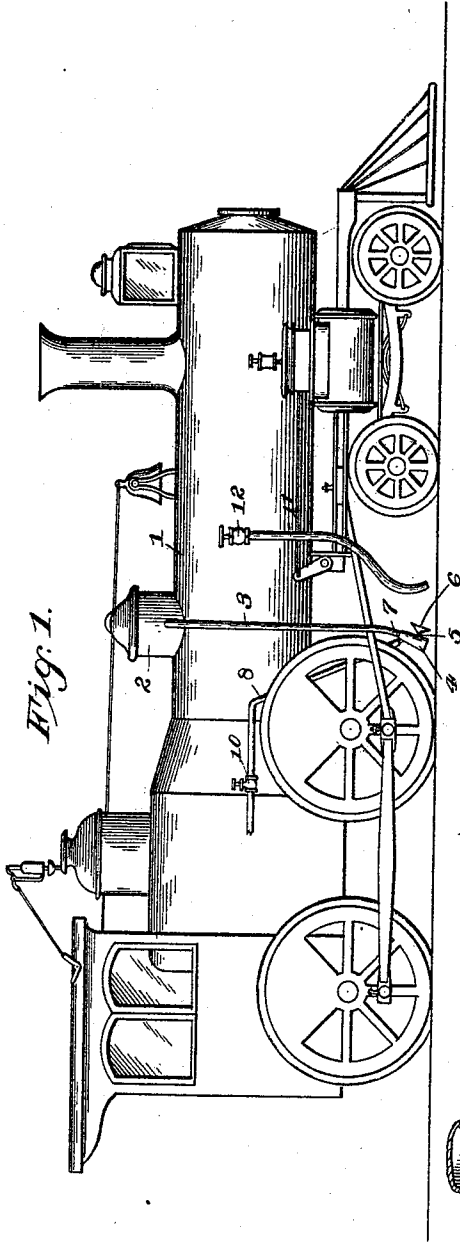


Fig. 1.

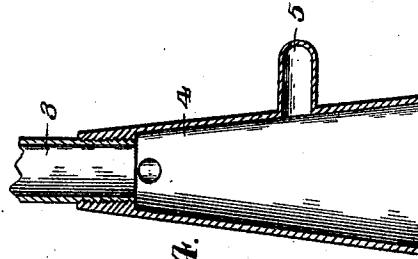


Fig. 4.

Fig. 3.

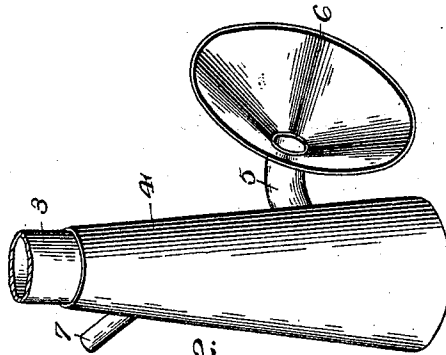
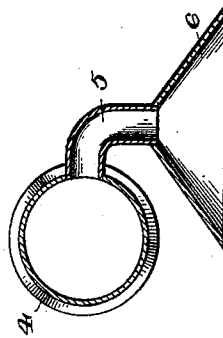


Fig. 2.

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UNITED STATES PATENT OFFICE.

FLOYD T. CHASE, OF ALVARADO, TEXAS.

SANDING DEVICE FOR LOCOMOTIVES.

SPECIFICATION forming part of Letters Patent No. 522,148, dated June 26, 1894.

Application filed March 31, 1894. Serial No. 505,873. (No model.)

To all whom it may concern:

Be it known that I, FLOYD T. CHASE, a citizen of the United States, residing at Alvarado, in the county of Johnson and State of Texas, have invented a new and useful Sanding Device for Locomotives, of which the following is a specification.

My invention relates to that class of sanding devices wherein the flow of sand is accelerated and insured by a blast or draft of atmosphere or vapor; and the invention consists in certain improved features of construction and combination and arrangement of parts whereby the delivery of the sand is made more effective and reliable, and whereby the emitting nozzle is kept clear and prevented from clogging up or freezing.

In the accompanying drawings: Figure 1 represents a side elevation of a locomotive engine supplied with my improvements; Fig 2, an enlarged perspective view of the nozzle and attached parts; Fig. 3, a horizontal section taken through the air-collecting cone or funnel; Fig. 4, a vertical section of the same.

The reference numeral 1 indicates the boiler of the engine, and 2 the sand-box, both of which may be of any preferred construction. Communicating with the sand-box 2 is the delivery-pipe 3, and this extends down nearly to the rail of the track. Secured to the lower end of the pipe 3, by screw-threading or otherwise, is the tapering nozzle 4, which is larger at its lower end and is arranged with such end directly over its respective rail.

5 indicates a curved or quadrant-shaped pipe, which communicates with the nozzle 4, and on one side thereof, preferably the inner side. From the nozzle 4 the pipe 5 extends outwardly and forwardly until its end opens in a line parallel with the line of the track and in the direction which the engine is headed. At this end the funnel or flaring head 6 is formed and communicates with the pipe 5, so that as the engine moves forwardly the inertia attending its movements will cause the air to be forced through pipe 5, and out nozzle 4, with great force, thus assisting in the delivery of the sand, as will be better explained hereinafter.

Communicating with the nozzle 4, at or near the upper end is the short section of piping

7 which extends rearwardly and upwardly from the nozzle and is connected to the pipe 8, which communicates with the main reservoir of the air-brake system. Arranged in this pipe is the valve or cock 10, whereby it is closed and opened. This valve may be connected with a rod or other device which will enable it to be operated from the locomotive cab, but this is not essential and does not require further mention. By means of pipe 8 the air from the brake system may be forced through nozzle 4 to serve the purpose of the draft produced by the funnel or head 6. These devices are not adapted for temporary use, but are designed to be used separately, and when the conditions are such that the other cannot be successfully or conveniently used.

11 indicates a pipe, which communicates with the boiler 1, and which is provided with a suitable cock 12, whereby the steam and water from the boiler may be forced down on the rails so as to melt the ice and sleet that may have accumulated thereon. This device is essential to the successful operation of all sanding devices, and is shown to illustrate the mode of applying my device.

In operation, supposing the funnel 6 to be used, the cock 10 in pipe 8 is closed and the funnel allowed to gather the air within the scope of its outer edges, whereupon the inertia attending the progressive movement of the engine, and consequently the funnel, will cause the air to be forced through the pipe 5, into the nozzle 4, and finally out by way of the lower end thereof. This will force the sand out the nozzle and keep the passage clear of all matter, thus preventing the clogging of the nozzle, which it is the object of this invention to overcome. Should the weather be extremely cold and the vapor attending the nozzle be in danger of freezing, the funnel 6 should be closed by any convenient means and the valve 10 opened, thus allowing the warm air from the main reservoir to force out the nozzle 4, and assist in the delivery of the sand, and at the same time counteract the tendency to freeze. It is well known that the fast speed at which the locomotive moves will create a vacuum in the nozzle of the usual pipes, and that this holds back particles of

sand. These particles freeze and become otherwise fastened in the nozzle and soon close the same. By my invention the vacuum is destroyed and the sand forced to fall upon the track.

It will be understood that the funnel or head 6 may be located on the end of the pipe 5, at any point above the track; and in practice it will be necessary to arrange it such a distance above the same that the danger of striking obstructions on the track will not exist.

Having described my invention, what I claim is—

1. A sanding device for locomotives, consisting of a sand-box, a pipe leading therefrom, a tube communicating with the nozzle of the pipe and having a flaring or funnel-shaped end whereby the air is forced into and through the nozzle as the locomotive progresses, and a pipe communicating with the nozzle and with the air-brake system, whereby the air may be similarly forced through

the nozzle when not convenient to use the funnel, substantially as described.

2. In a sanding device for locomotives, a sand-box, a pipe leading therefrom and having its lower end terminating directly over the track and immediately forward of the driving wheel of the locomotive to which the sanding device is attached, and a funnel having its flaring end opening forwardly and in communication with the nozzle of the said pipe, whereby as the engine progresses a blast of air will be forced into the funnel and through the nozzle of the pipe, thereby accelerating the delivery of sand to the track and preventing clogging of the nozzle, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses,

FLOYD T. CHASE.

Witnesses:

THOMAS GALLEELY,
W. E. SHARP.