S. WHEELER.

SMOKE AND CINDER CONDUCTOR FOR LOCOMOTIVES.

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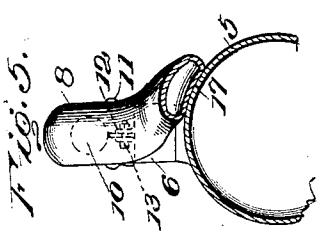

Fig. 5.

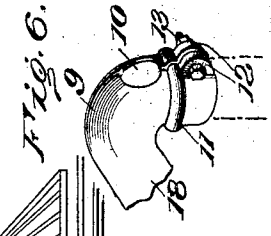

Fig. 6.

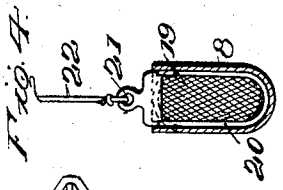

Fig. 4.

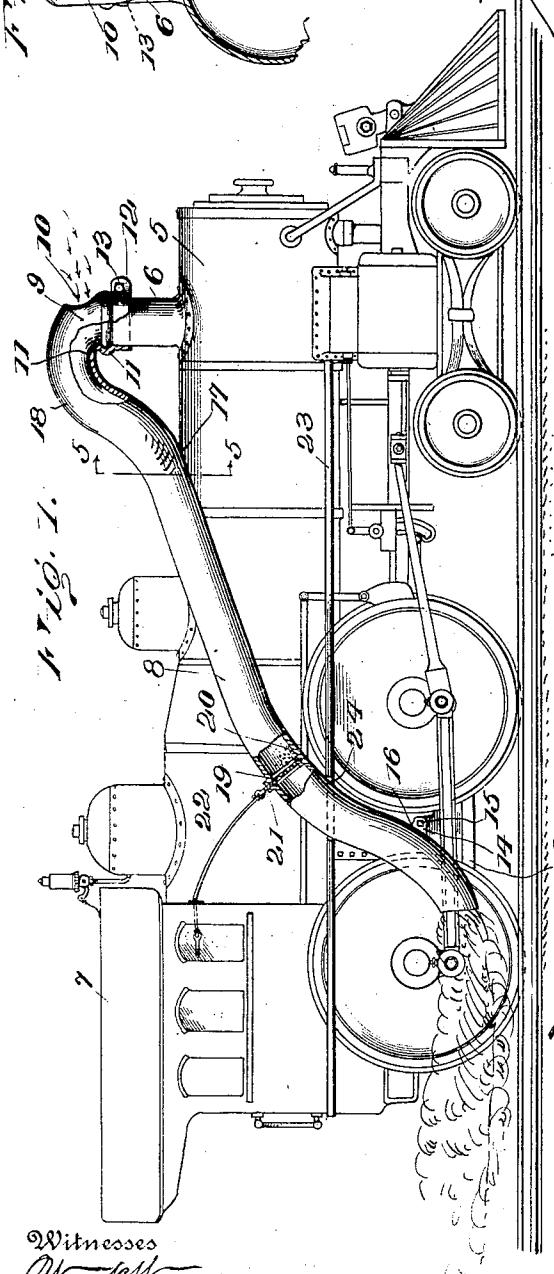

Fig. 1.

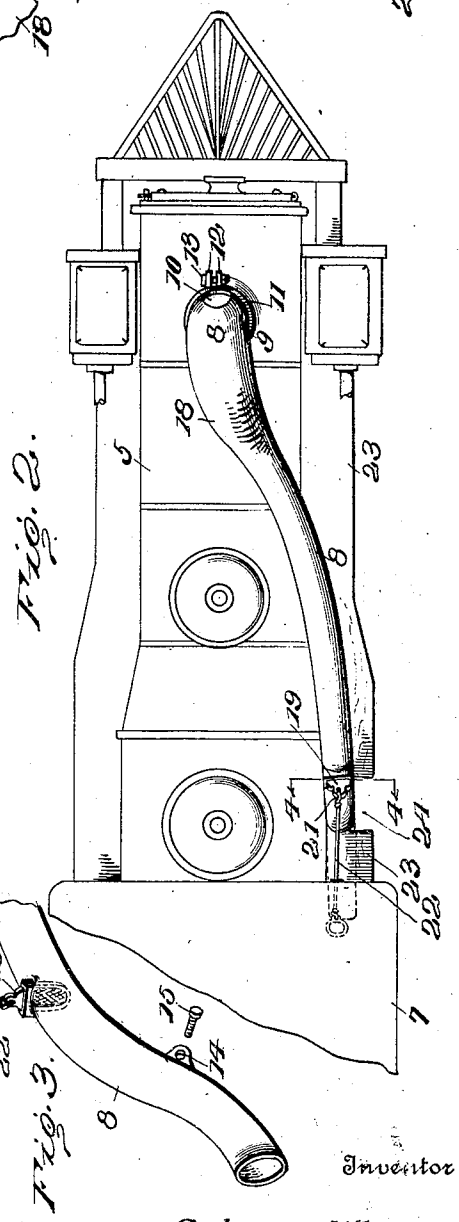

Fig. 2.

Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

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SMOKE AND CINDER CONDUCTOR FOR LOCOMOTIVES.

1,042,631. Specification of Letters Patent. Patented Oct. 29, 1912.

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To all whom it may concern:

Be it known that I, SOLOMON WHEELER, a citizen of the United States, residing at Cripple Creek, in the county of Teller and State of Colorado, have invented certain new and useful Improvements in Smoke and Cinder Conductors for Locomotives, of which the following is a specification.

This invention relates to smoke conductors and more particularly to a conductor for attachment to the smoke stacks of locomotives and other engines.

The object of the invention is to provide a smoke conductor of simple and durable construction, capable of being readily fitted to the stack of a locomotive and by means of which smoke and cinders from said stack may be conducted rearwardly and discharged at a point on one side of the engine so as to prevent the smoke from obscuring the vision of the engineer and fireman or entering the windows of the cars attached to the engine, especially when the train is traveling through tunnels, arches and the like.

A further object of the invention is to provide a conductor having a valve slidably mounted therein and operable from the engineer's cab for the purpose of preventing hot cinders from being deposited on railway bridges, trestles and other wooden structures, said valve being perforated to permit the escape of smoke when the valve is in closed position.

A further object is to provide means for creating a draft in the smoke conductor, thereby to facilitate the discharge of the smoke and cinders.

A still further object of the invention is generally to improve this class of devices so as to increase their utility, durability and efficiency.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

For a full understanding of the invention and the merits thereof, reference is to be had to the following description and accompanying drawing, in which:

Figure 1 is a side elevation of a locomotive provided with a smoke conductor constructed in accordance with the present invention; Fig. 2 is a top plan view of the same; Fig. 3 is a detail perspective view of the lower or discharge end of the conductor, showing the valve in closed position. Fig. 4 is a transverse sectional view of the conductor, taken on the line 4—4 of Fig. 2; Fig. 5 is a similar view taken on the line 5—5 of Fig. 1; Fig. 6 is a front elevation of the cap or head of the conductor.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawing by the same reference characters.

The improved conductor forming the subject matter of the present invention is principally designed for attachment to the smoke stacks of locomotives and other engines, and by way of illustration is shown applied to a locomotive of the ordinary construction, in which 5 designates the boiler, 6 the smoke stack and 7 the cab. The device comprises a pipe or conductor 8, preferably elliptical in cross section and formed either of a continuous length of tubing or in a plurality of sections suitably connected as desired. The upper end of the conductor 8 is bent downwardly to form a depending extension or head 9 adapted to fit over the smoke stack 6, there being an opening 10 formed in the head at a point directly above the upper edge of the smoke stack so as to permit the entrance of air and thus facilitate the discharge of smoke and cinders from the stack through the conductor to a point at the rear and to one side of the boiler.

The extension or head 9 is provided with a circumferential rib 11 adapted to receive the terminal bead on the smoke stack 6, the metal between the opening 10 and the lower end of the head being cut or severed and extended laterally to form co-acting clamping ears 12 adapted to receive a bolt or similar fastening device 13 by tightening which the conductor may be firmly secured to the smoke stack. By such a construction, the lower end of the head 9 is free to expand and contract slightly which facilitates placing the head on or removing said head from the smoke stack, the bolt 13 serving to rigidly secure the head against accidental displacement, as before stated.

The lower end of the conductor 8 extends downwardly on one side of the boiler to a point near the rear driving wheels of the locomotive, there being a perforated ear or

lug 14 formed on the conductor near the discharge end thereof to receive a bolt 15, which bolt engages a threaded opening in the usual pad block 16.

It will here be noted that the upper portion of the conductor 7 is curved to conform to and bear against the top of the boiler, as indicated at 17, while the head 9, at its junction with the body of the conductor, is inclined downwardly at 18 so that the sparks and cinders coming in contact with the inclined wall 18 of the conductor will be deflected downwardly and rearwardly to the point of discharge of the conductor.

As a means for preventing the discharge of hot cinders when traveling over bridges, trestles and other wooden structures, there is provided a valve 19 preferably formed of perforated metal so as to permit the escape of smoke when the valve is in closed position, while at the same time preventing the discharge of cinders. The valve 19 extends through an opening in the conductor 8 and is slidably mounted in suitable guides 20 formed therein, said valve being provided with an eye 21 to which is connected one end of an operating rod 22, the other end of which extends through an opening in the cab 7 and in convenient position for the engineer and fireman.

Attention is called to the fact that the running board 23 of the locomotive is provided with a recess 24 to accommodate the conductor 8, said recess opening through the outer edge of the running board so as to facilitate attaching the conductor to or removing said conductor from the locomotive.

Thus it will be seen that when the locomotive is in motion, the current of air entering the opening 10 will create a partial suction in the head 9 and suck the smoke and cinders rearwardly and downwardly to the discharge end of the conductor, thereby preventing the smoke from obscuring the vision of the engineer and fireman, or entering the windows of the cars attached to the train, especially when the latter is passing through tunnels, arches and the like. It will also be seen that by merely loosening the bolts 13 and 15, the conductor may be readily detached from the locomotive to facilitate cleaning the parts or permit the conductor to be attached to another locomotive, when desired.

The device is extremely simple in construction and may be quickly installed on locomotives now in use, without the necessity of making material structural changes therein.

Having thus described the invention, what is claimed as new is:

1. The combination with a locomotive including a smoke stack and running board, there being a recess formed in the running board and opening through the outer longitudinal edge thereof, of a conductor having its upper end provided with a depending head fitting over the upper edge of the smoke stack and its lower end extending through the recess in the running board and discharging at a point beneath the running board, there being an opening formed in the head of the conductor and an attaching lug formed on the lower end of said conductor, a perforated valve slidably mounted in the conductor near the discharge end thereof, and an actuating device connected with the valve and operable from the cab of the locomotive.

2. The combination with a locomotive including a smoke stack, of a conductor having its upper end curved downwardly to provide a head adapted to fit over the upper edge of the smoke stack, there being an opening formed in the head, and the material between said opening and the lower end of the head being severed and extended laterally to form attaching ears, the intermediate portion of the conductor being flattened and adapted to rest on the surface of the boiler, and the lower end thereof extended downwardly and rearwardly and provided with a discharge orifice, a perforated valve mounted in the conductor, and an actuating device operatively connected with said valve.

3. The combination with a locomotive, including a smoke stack and running board, the latter being provided with a seating recess opening through the outer longitudinal edge thereof, of a conductor having its upper end provided with a split head fitting over the top of the smoke stack and its lower end extended through the seating recess to a point below the running board, there being an opening formed in the head above the top of the smoke stack, and an attaching lug formed on the conductor near the discharge end thereof, guides arranged within the conductor, a perforated valve slidably mounted within the guides, and an actuating device operatively connected with said valve.

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

SOLOMON WHEELER. [L. S.]

Witnesses:
J. D. YOAKLEY,
SAMUEL N. ACKER.