(No Model.)

A. H. LE VAN.

DUST CONVEYER FOR RAILROAD PASSENGER CARS OR COACHES.

No. 604,867. Patented May 31, 1898.

Fig. 1.

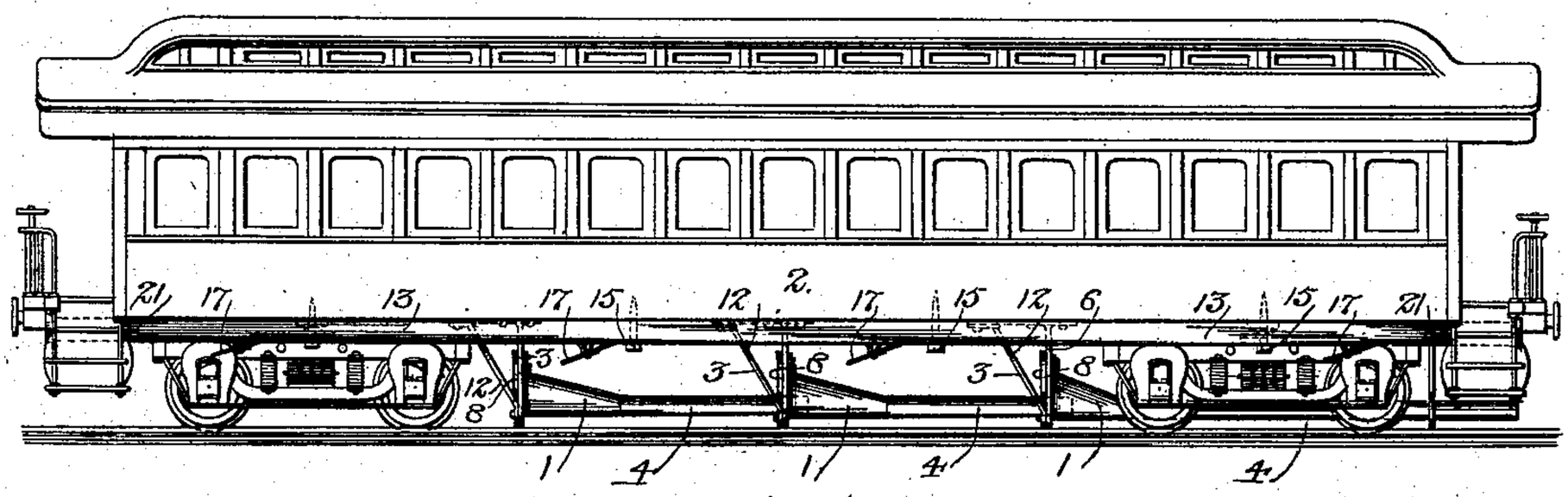


Fig. 2.

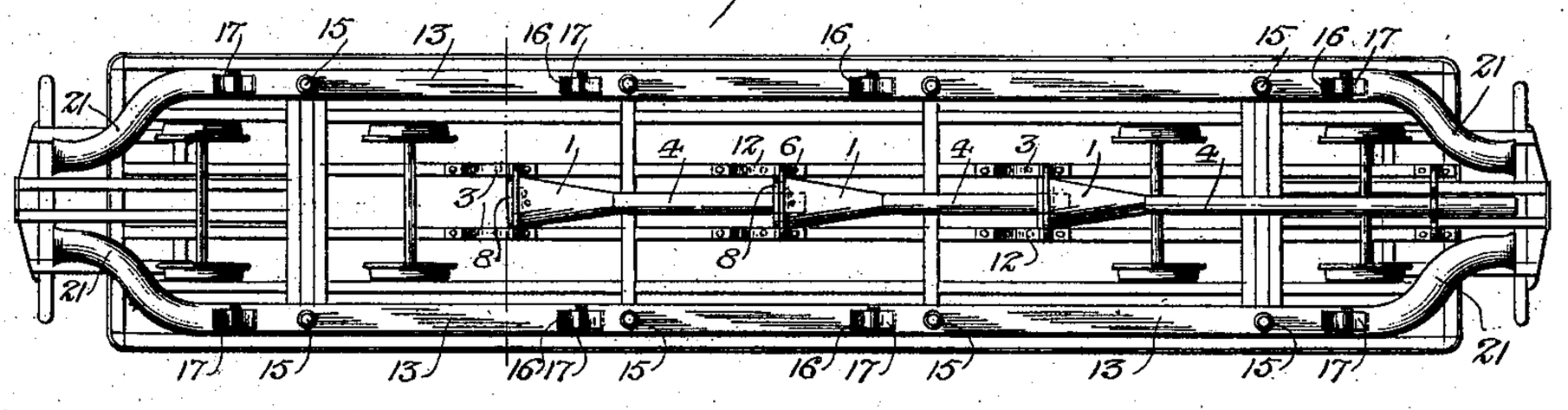


Fig. 3.

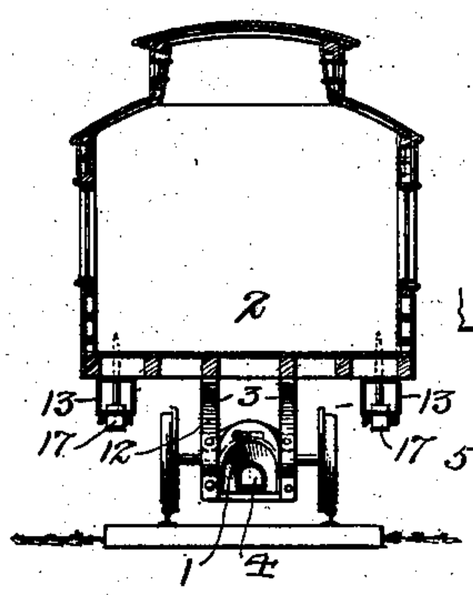


Fig. 7.

Fig. 5.

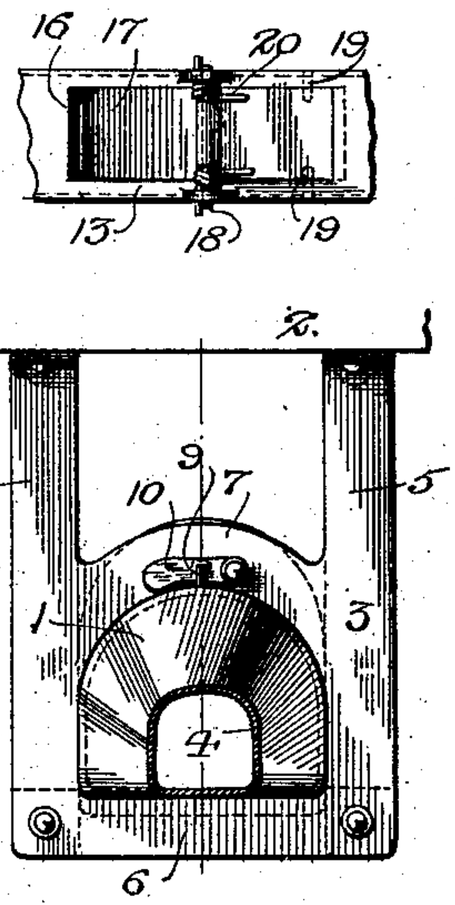
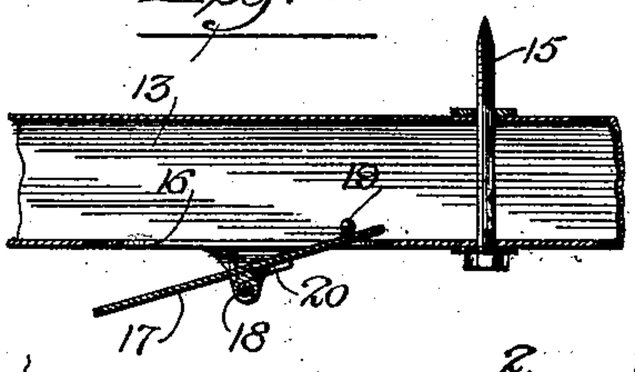


Fig. 4.



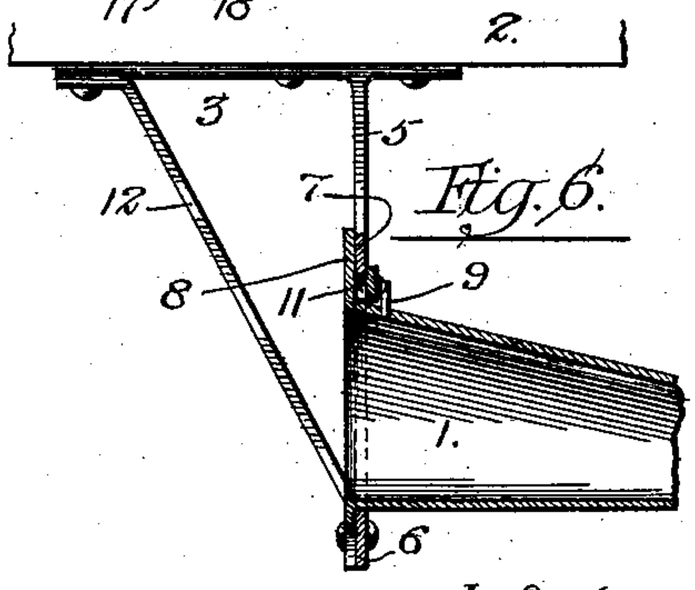


Fig. 6.

Witnesses:-

Louis M. T. Whitehead

J. F. Riley

By His Attorneys,

Inventor:-

Aaron H. LeVan.

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

AARON H. LE VAN, OF READING, PENNSYLVANIA.

DUST-CONVEYER FOR RAILROAD PASSENGER CARS OR COACHES.

SPECIFICATION forming part of Letters Patent No. 604,867, dated May 31, 1898.

Application filed November 18, 1897. Serial No. 658,971. (No model.)

To all whom it may concern:

Be it known that I, AARON H. LE VAN, a citizen of the United States, residing at Reading, in the county of Berks and State of Pennsylvania, have invented a new and useful Dust-Conveyer for Railroad Passenger Cars or Coaches, of which the following is a specification.

This invention relates to dust-conveyers.

The object of the present invention is to improve the construction of dust-conveyers and to provide a simple, inexpensive, and efficient one adapted to be readily mounted on a car to collect the dust caused by the passage of a train at a high rate of speed and to convey the said dust to the rear of the train and discharge the same a sufficient distance beyond the rear car to prevent any of it from entering the coaches.

The invention consists in the construction and novel combination and arrangement of parts, as hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a side elevation of a car provided with a dust-conveyer constructed in accordance with this invention. Fig. 2 is a reverse plan view of the same. Fig. 3 is a tranverse sectional view. Figs. 4 and 5 are detail views illustrating the construction of the pivoted plates of the side conveyers. Figs. 6 and 7 are detail views illustrating the construction of the hangers and the fastening devices for securing the funnels detachably in the hangers.

Like numerals of reference designate corresponding parts in the several figures of the drawings.

1 designates a longitudinal series of funnels arranged beneath a car 2 and supported at their front ends or mouths by hangers 3 and provided with tubes 4, extending rearward from their contracted ends and terminating within and supported by the mouths of the adjacent funnels, whereby a continuous conduit for dust is provided throughout the length of the train. The forward movement of a train is amply sufficient to create a blast of air through the dust-conveyer formed by the series of funnels, and the suction produced by the air rushing to the mouths of the funnels serves to draw in the dust, which is conveyed to the rear end of the train and discharged therefrom with sufficient force to prevent any of it from entering the coaches.

The mouth of each funnel is supported by a hanger 3 and is substantially semicylindrical in cross-section, being flat at the bottom and arched at the top, and the hanger 3, which conforms to the configuration of the funnel, is composed of straight vertical sides 5, a connecting bottom piece 6, and a curved connecting-piece 7, located between the ends of the sides 5 and having its lower edge conforming to the configuration of the arched top of the funnel.

The funnel is introduced into the hanger by passing the tube 4 through the same, and it is provided at its mouth with an outwardly-extending vertical stop-flange 8, abutting against the front face of the hanger and preventing the funnel from being drawn entirely through the same. In order to prevent the funnel from moving forward and thereby becoming displaced from the hanger, it is provided at its top with a projection 9, located slightly in rear of the stop-flange 8 and adapted to lie in rear of the curved connecting portion 7 of the hanger when the funnel is in position, as clearly illustrated in Fig. 6 of the accompanying drawings. The projection or pin 9 is engaged by a pivoted gravity-latch 10, mounted on the curved portion 7 of the hanger, at the rear face thereof, and adapted to drop in advance of the pin after the funnel has been placed in position. The curved connecting portion 7 of the hanger is provided at its lower edge with a slot or opening 11 to permit the passage of the pin 9, and the gravity-catch 10, which is interposed between the hanger and the pin 9, covers the slot or opening 11.

The hanger 3, which is preferably constructed of a single piece of metal, is supported by inclined braces 12, extending upward and forward from the bottom of the hanger at opposite sides of the same. The upper ends of the braces are secured to the frame of the car, and the hanger is firmly supported by this arrangement of braces.

The car is provided at opposite sides with conveyer tubes or conduits 13, mounted on the bottom of the car by suitable fastening devices 15 and provided at their bottoms

with openings 16 and having plates 17 pivotally mounted at the openings and forming flaring mouths to the same, whereby a suction through the side conveyers similar to the lower main conveyer is produced to catch any dust which might arise at the sides of the car. Each plate 17 is pivoted or hinged at its center at 18. It is arranged at an angle to the conveyer tube or conduit, and it is adapted to catch the air and direct it into the same. Its inner end is supported by a suitable stop 19, and it is maintained at an angle to the tube or conduit by a spring 20.

The ends 21 of the side conveyer tubes or conduits are curved inward to clear the steps of the car, and suitable flexible connections are designed to be provided for connecting the side conveyers of the various cars.

The invention has the following advantages: The dust-conveyer is simple and comparatively inexpensive in construction. It is adapted to be readily applied to a car, and it is capable of collecting the dust at the bottom and sides of a car and of preventing the same from entering a coach. The suction or blast of air through the conveyers is sufficient to draw in the dust and to discharge it at the rear end of a train with force enough to prevent it from entering any of the cars.

Changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What I claim is—

1. In a device of the class described, the combination with a car, of hangers depending from the bottom of the car, and a longitudinal series of funnels located beneath the car and supported in the hangers, said funnels being provided with rearwardly-extending tubes having their rear ends supported within the mouths of the adjacent funnels, substantially as described.

2. A device of the class described comprising a longitudinal series of funnels provided at their reduced ends with tubes fitting in the mouths of the adjacent funnels, said funnels being provided at their mouths with stop-flanges, pins or projections mounted upon the funnels in rear of the stop-flanges, hangers supporting the funnels and having the stop-flanges abutting against their front faces, said hangers being provided with slots or openings to permit the passage of the pins, and latches mounted on the hangers and adapted to cover the slots or openings, substantially as and for the purpose described.

3. In a device of the class described, the combination of a funnel having an arched upper portion and a flat bottom portion and provided with a stop-flange, a hanger composed of vertical sides, a horizontal bottom portion supporting the funnel, and a curved connecting portion extending over the top of the funnel and conforming to the configuration of the same, means for detachably locking the funnel in the hanger, and braces, substantially as described.

4. In a device of the class described, the combination with a car, of the side conveyers mounted upon the car below the body thereof and provided with curved terminals extending inward in rear of the steps of the car, said conveyers being provided with openings having flaring mouths, substantially as described.

5. In a device of the class described, the combination with a car, of a series of hangers mounted on the car and depending from the bottom thereof, the said hangers being provided with horizontal bottom portions and having curved connecting-pieces arranged above the horizontal portions, and a horizontal series of funnels arranged within the hangers and having flat bottom portions and arched top portions to fit the hangers, said funnels being provided with rearwardly-extending tubes having their rear ends arranged within the mouths of the adjacent funnels, substantially as described.

6. In a device of the class described, a side conveyer comprising a tube or conduit, designed to be mounted on the body of a car at the bottom thereof and provided with openings, plates pivoted between their ends at the openings, arranged at an angle to the tube or conduit and forming flaring mouths or entrances, springs engaging the plates and stops mounted on the tube or conduit and arranged to be engaged by the plates, 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.

AARON H. LE VAN.

Witnesses:
GEORGE REGAS,
DAVID SAUSLYNN.