No. 798,977. PATENTED SEPT. 5, 1905.

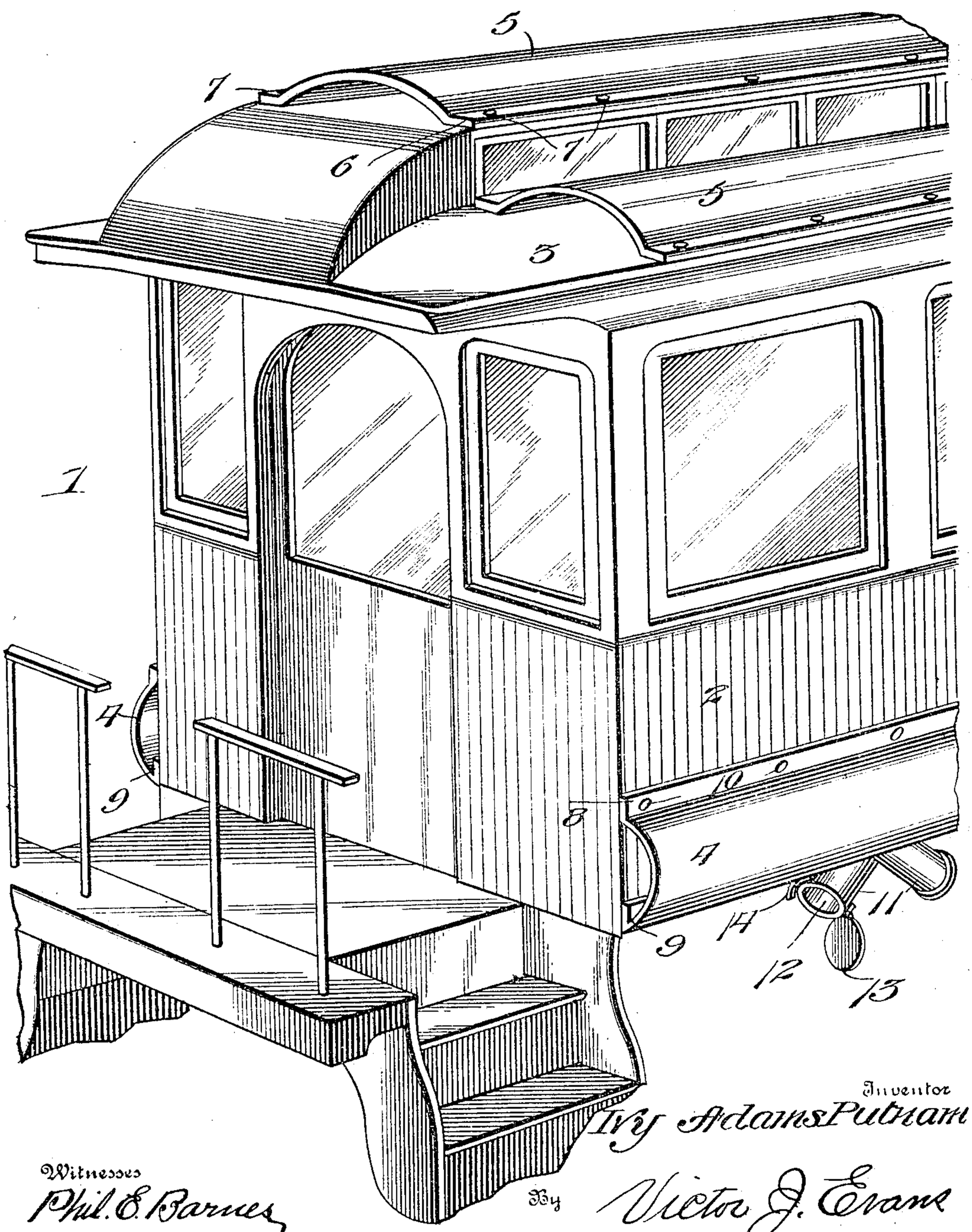
I. A. PUTNAM.

DUST AND SMOKE CONVEYER FOR CARS.

APPLICATION FILED MAR. 24, 1905.

2 SHEETS—SHEET 1.

Fig 1.



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2 SHEETS—SHEET 2.

Fig 2.

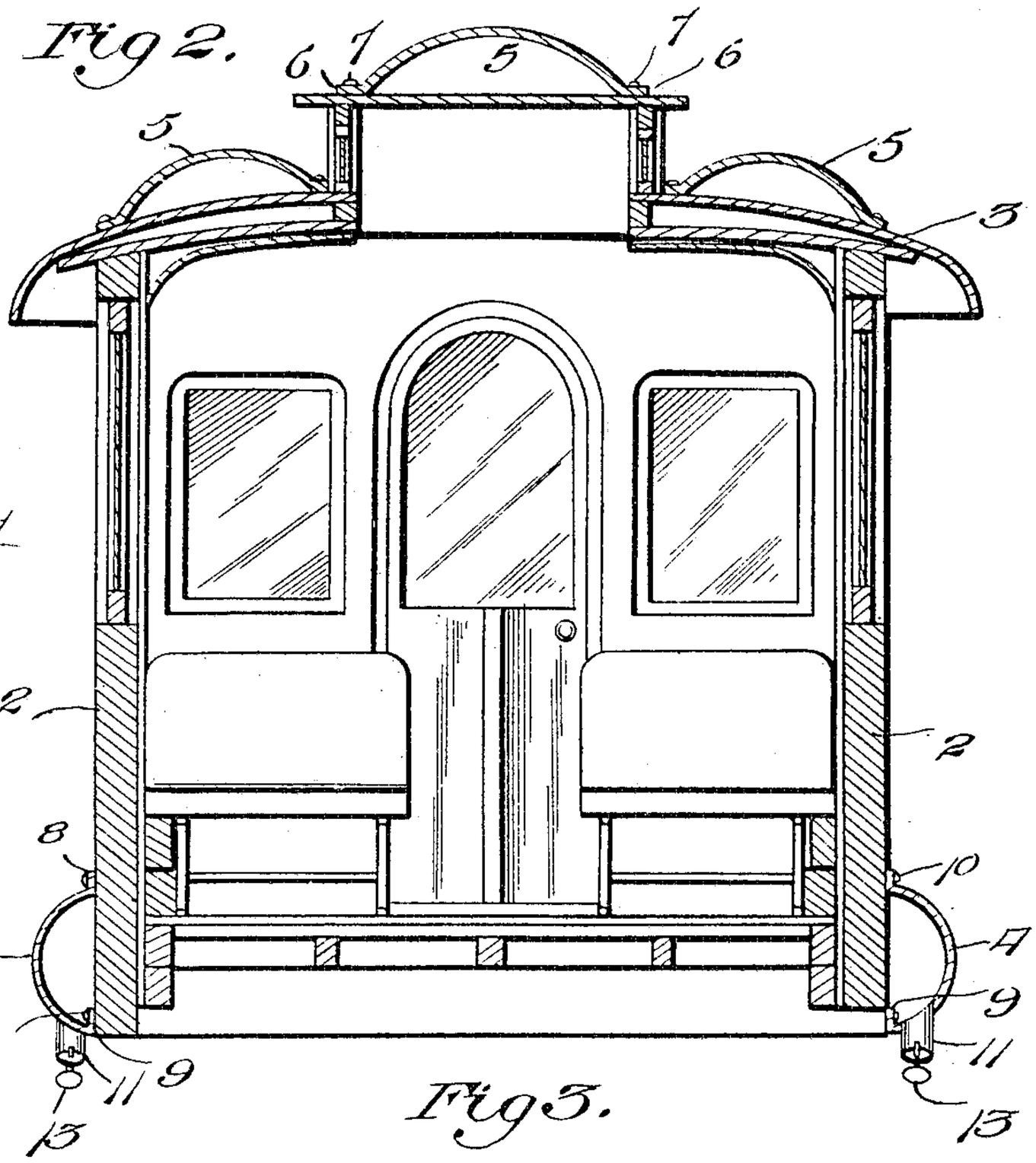


Fig 3.

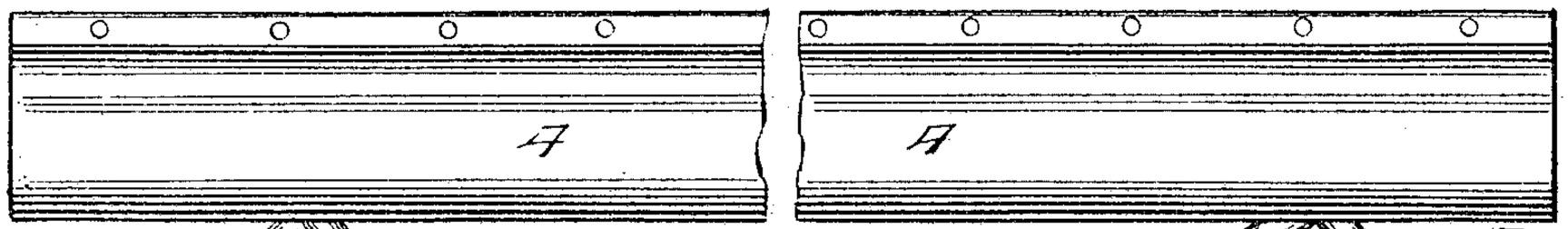


Fig 4.

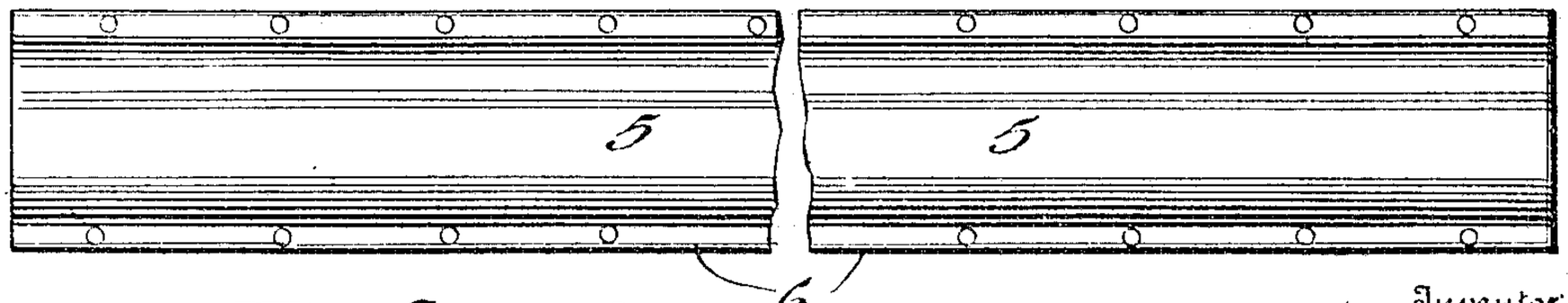
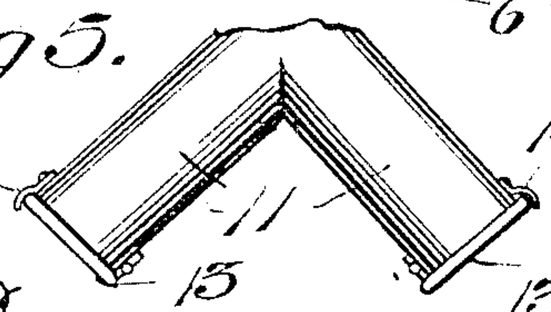


Fig 5.



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DUST AND SMOKE CONVEYER FOR CARS.

No. 798,977. Specification of Letters Patent. Patented Sept. 5, 1905.

Application filed March 24, 1905. Serial No. 251,881.

To all whom it may concern:

Be it known that I, IVY ADAMS PUTNAM, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented new and useful Improvements in Dust and Smoke Conveyers for Cars, of which the following is a specification.

This invention relates to dust and smoke ducts for cars, and has for its objects to produce a comparatively simple device of this character which may be readily and inexpensively applied to the cars and one which will in practice serve to convey the smoke and dust to and deliver it at the rear end of the train, thus effectually preventing entrance of such impurities into the car, and consequently increasing the cleanliness and sanitary conditions of the latter.

To these ends the invention comprises the novel features of construction and combination of parts more fully hereinafter described.

In the accompanying drawings, Figure 1 is a perspective view of a portion of a car equipped with ducts in accordance with the invention. Fig. 2 is a vertical transverse section of the car. Fig. 3 is a side elevation of one of the side ducts. Fig. 4 is a plan view of one of the roof-ducts. Fig. 5 is a detail view of the inlet-nozzles.

Referring to the drawings, 1 designates a car comprising side walls 2 and a top or roof 3, the car being of the usual or any appropriate construction and material, inasmuch as the same constitutes no part of the present invention.

In accordance with my invention I apply to the side walls 2, preferably adjacent their lower edges, longitudinal ducts 4 and to the roof 3 a plurality of longitudinal ducts 5, these ducts being all composed, preferably, of sheet metal and of substantially semicircular form in cross-section, as illustrated in Fig. 2. The upper ducts 5 are provided with outwardly-projecting longitudinal flanges 6, perforated at suitable intervals for the reception of bolts or other fastening members 7, by which the ducts are secured to the car, while the ducts 4 have at their upper edges longitudinal outturned flanges 8 and at their lower edges inturned flanges 9, likewise perforated at intervals for the reception of fastening members or bolts 10 employed in securing the ducts to the side walls of the car, attention being directed to the fact that all the ducts are open at their ends and are wholly free from internal obstructions, thus to permit free passage of smoke, dust, or other impurities therethrough. The lower side ducts 4 are each provided with two sets or pairs of inlet pipes or nozzles 11, arranged, respectively, adjacent the terminal ends of the duct. The nozzles 11, which communicate with the interior of the duct, are inclined downwardly and outwardly in opposite directions toward the opposite ends of the car and have their outer inlet ends or mouths 12 equipped with pivoted valves or closures 13, adapted for closing the nozzles and to be maintained in closed position by means of spring-catches or other retaining members 14.

In practice as the car advances air passing through the ducts 4 and 5 creates a strong suction or induced draft within the latter, thus serving to draw into the ducts 4 any dust arising beneath the car owing to its passage over the rails and into the ducts 5 smoke, cinders, and other products of combustion escaping from the smoke-stack of the engine. The dust and smoke travel freely through the ducts and are received from the ducts on one car by those on the next throughout a train of cars, thus being conveyed to and delivered at the rear of the train. Prior to setting the car in motion the valves 13 of the nozzles projecting toward the forward end or in the direction of advance of the car are opened, while those of the oppositely-extended nozzles are closed, whereby as the train advances the dust will find entrance into the ducts 4 through the open nozzles or inlets, as will be readily understood. It may be mentioned that owing to the peculiar disposition of the nozzles the dust will be drawn more readily thereinto for entrance into the ducts.

From the foregoing it is apparent that I produce a simple device which may be readily and inexpensively applied to the various types of cars now in general use and one which in practice will render the cars clean and sanitary owing to the impurities being conveyed to and delivered at the rear of the car or train of cars, it being understood that in attaining these ends various changes in the details of construction herein set forth may be resorted to without departing from the spirit of the invention.

Having thus fully described the invention, what is claimed as new is—

1. In a device of the class described, a car, a duct attached to one wall of the car and free from communication with the interior of the

latter, an inlet-nozzle communicating with the duct at a point remote from the end of the latter, and a closure for the mouth of the nozzle.

2. In a device of the class described, a car, a duct attached to one wall of the car and free from communication with the interior of the latter, an inlet-nozzle communicating with and at a point remote from the end of the duct, a closure pivoted at the mouth of the nozzle, and a spring-catch for maintaining the closure in closed position.

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

IVY ADAMS PUTNAM.

Witnesses:

MAUDE M. HUGHES,

W. K. FOWLER.