

(No Model.)

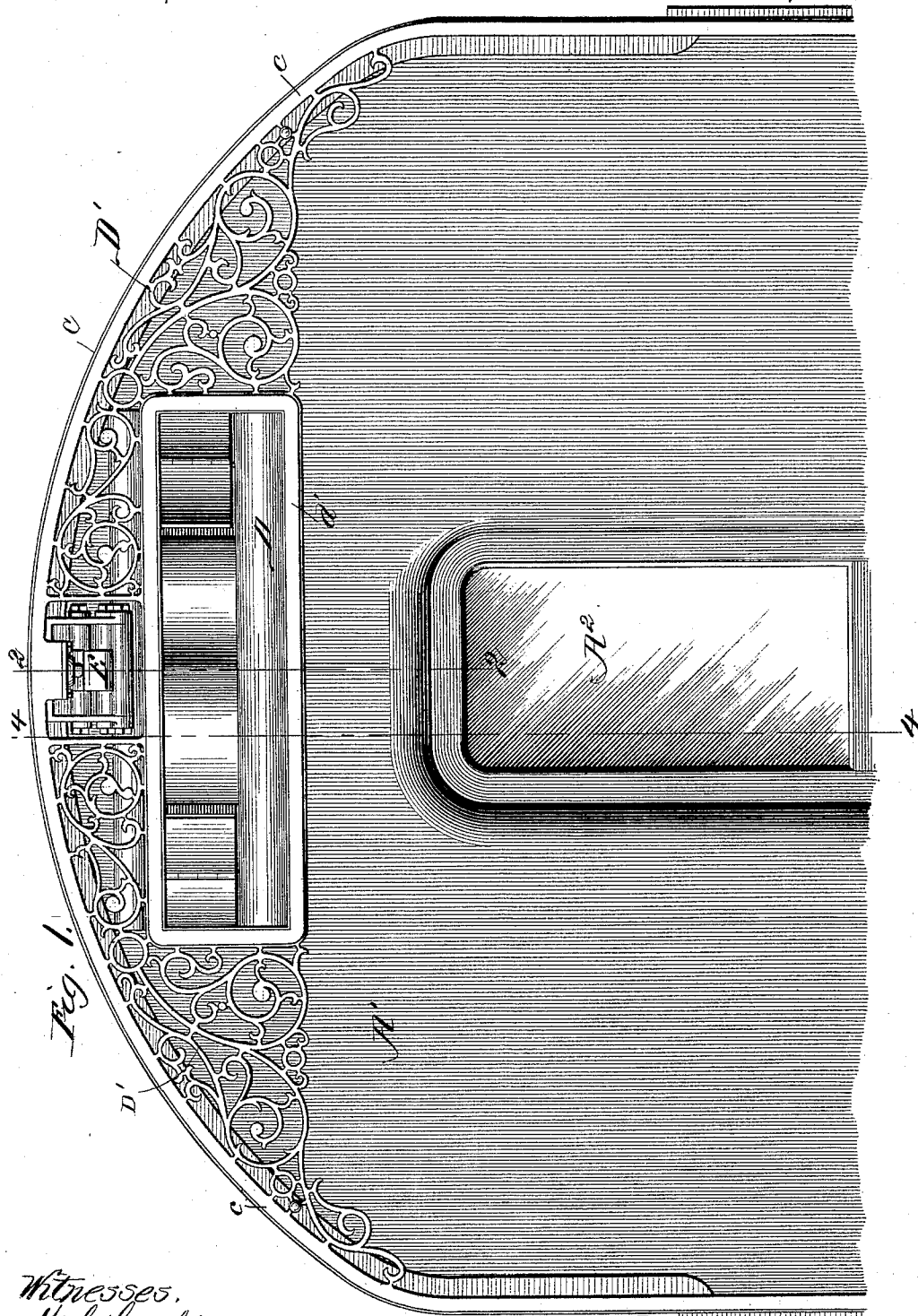
3 Sheets—Sheet 1.

F. U. ADAMS.

AIR SUPPLY DEVICE FOR RAILWAY PASSENGER CARS.

No. 489,909.

Patented Jan. 17, 1893.



Witnesses.  
W. C. Corliss  
Fred. H. Hise.

Inventor:  
Frederick U. Adams.

By Darius Pooler W. Brown Atty.

(No Model.)

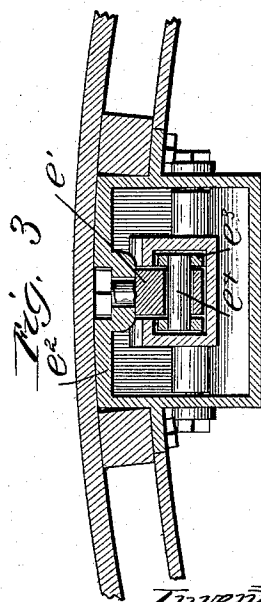
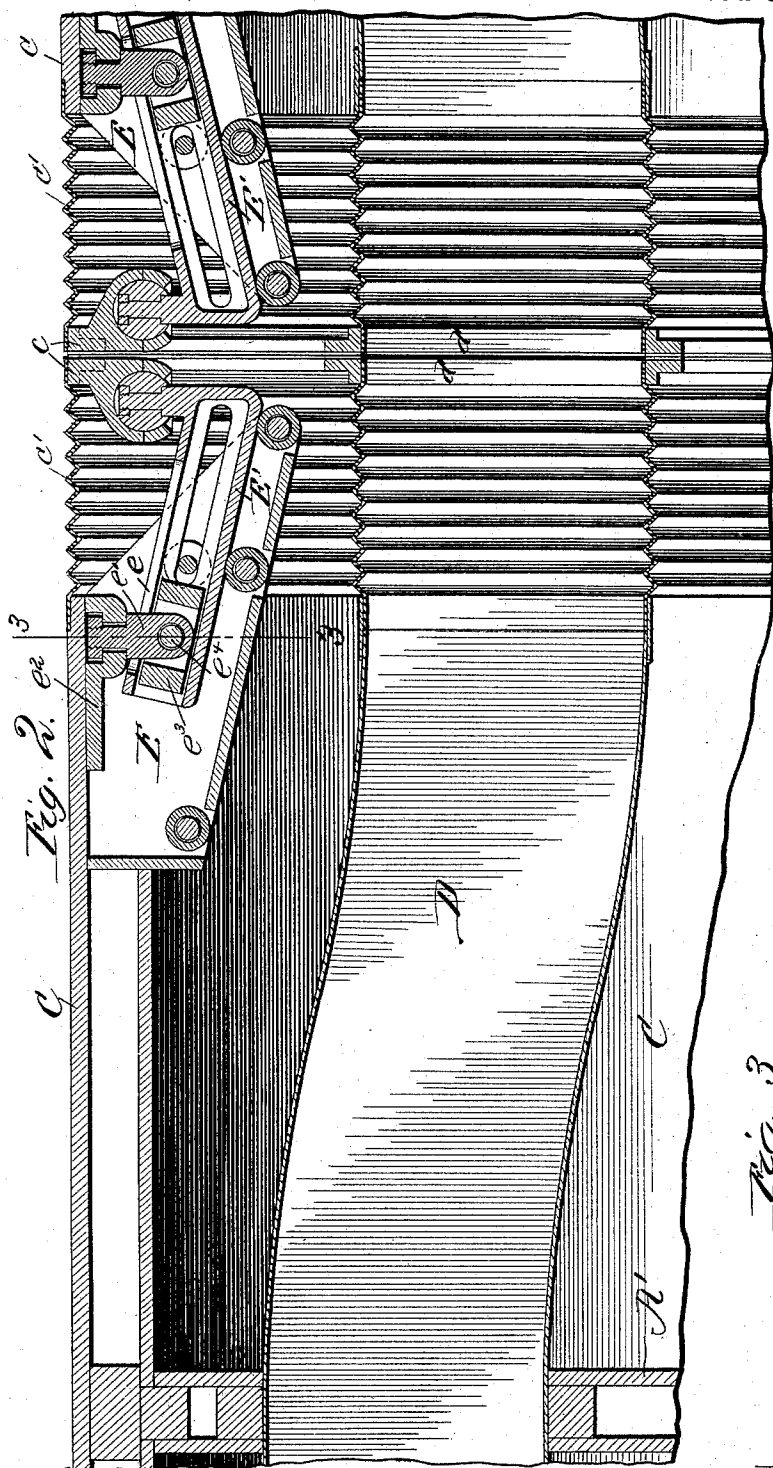
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Witnesses.  
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(No Model.)

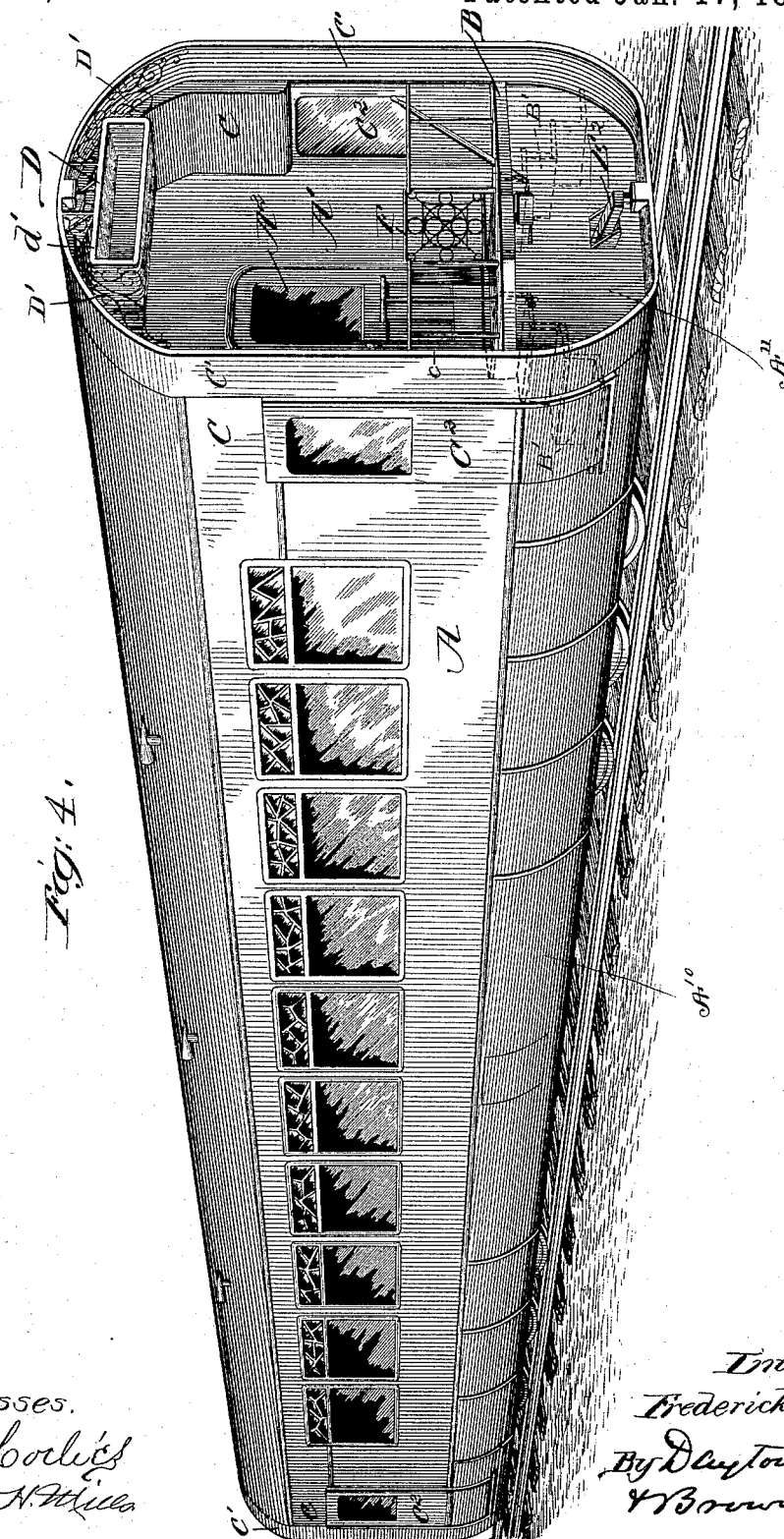
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AIR SUPPLY DEVICE FOR RAILWAY PASSENGER CARS.

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Witnesses.

W. C. Corlies  
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# UNITED STATES PATENT OFFICE.

FREDERICK U. ADAMS, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO  
ROBERT S. MCCORMICK, OF SAME PLACE.

## AIR-SUPPLY DEVICE FOR RAILWAY PASSENGER-CARS.

SPECIFICATION forming part of Letters Patent No. 489,909, dated January 17, 1893.

Application filed December 14, 1891. Serial No. 414,991. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK U. ADAMS, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Air-Supply Devices for Railway Passenger-Cars; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to air supplying devices in railway cars having hoods at their ends which meet or join similar hoods upon adjacent cars to form a continuous inclosure of the interior of several coupled cars of a train. In such hooded or vestibuled cars, and especially in trains in which the hoods of the cars are of the full width of the latter, it is desirable to provide for the supply of fresh air to the interior of the train otherwise than through open doors or windows.

This patent describes and claims a longitudinal air supply duct or trunk located in a car which has extensible and flexible hoods, the air trunk being also provided with extensible and flexible end sections or parts, which latter are supported from the free ends of the hoods in position to properly meet and maintain junction with the ends of similar air trunks belonging to adjacent and similarly hooded cars.

The patent also describes and claims certain details of construction in the air duct, other details in the supports for the car hoods and means for laterally inclosing a passage from the end door of one car to the end door of another independent of the hoods themselves.

In the accompanying drawings which illustrate suitable forms of the several improvements herein set forth, Figure 1 is an end view of the upper portion of a car and of the extensible and flexible hood attached thereto, said hood being of the full width of the car. Fig. 2 is a fragmentary vertical section taken on the line 2—2 of Fig. 1. Fig. 3 is a detail in transverse section on the line 3—3 of Fig. 2. Fig. 4 is a perspective view

showing the casing for the sides and the end of the car as hereinafter referred to. Fig. 5 is a perspective view of a car provided with a hood having an extensible and flexible portion, said hood being of the full width of the car, and provided also with a longitudinal air duct in accordance with my invention.

A designates a car body of which A' is an end having a central door A<sup>2</sup>.

B is the end platform and B' B' are the side steps leading to the platform these steps being shown in dotted lines in Fig. 4.

C is a rigid portion of a hood extending in line with the car sides to the outer end of the platform, and C' is a flexible and extensible portion of the hood, flush with the rigid portion C and forming a prolongation of the latter in order to meet a similar extension of the hood of an adjacent coupled car.

D is a longitudinal air duct arranged within the upper part of the car and extending from end to end thereof.

The hoods of the cars, as herein described and shown, being flush with the sides of the car, inclose not only the platforms proper, but also the steps, or the greater portion of the steps, B', which lead to the platforms, said hoods extending downwardly to or below the lowermost step, as set forth in other applications for patents made by me of which the first filed is Serial No. 410,141, filed October 27 1891. These rigid portions of the hoods are therefore provided with side doors C<sup>2</sup> extending to a suitable height from the lowermost steps to admit passengers. Whether the hoods be of this width or of the lesser width common in the so-called vestibuled cars, the flexible and extensible portions C' of the hoods are in prolongation of the rigid portions C and may be of any suitable construction, the folding or accordion type being here illustrated. They are provided with end-plates c which, as shown, are relatively or suitably rigid so as to form proper contact with corresponding end-plates on the extensions of the hoods of adjacent coupled cars. These end-plates c may, for the general purposes of my invention, be sup-

ported from the body of the car or from the rigid portion of the hood by any suitable device or devices, a particular form of such support being illustrated at E, Figs. 1, and 2, and herein claimed.

The means for conveying fresh air from one car to another, or from the front of the train through a series of cars forming a train, is here shown as a single, central flue D for each car, extending the entire length of the latter and located within the car at or near the top thereof. The end portions of the main duct D for each car are flexible and extensible and are provided at their extremities with end-plates *d'*, similar to the end plates of the hoods, and for the purpose of affording suitably close junction of the duct of one car with that of another. This general construction, as so far described, is set forth in my last mentioned previous application for patent, and one of the present improvements relates more especially to means for the support of the ends of the flexible portions of this duct. In the present case each end-plate of the air-duct is supported from the adjacent end-plate of the car hood so that each maintains its position with respect to the other. Fig. 1 illustrates a particular form of such support for the end-plate of the duct as consisting of an ornamental, openwork frame *D'* secured to the upper adjacent portion of the end-plate *c* of the hood and connected with the end-plate *d'* of the duct. Any other suitable form of support connecting these two parts may be employed in place of that shown. By means of this support, constructed as shown, the force relied on to hold the end-plates of adjacent car hoods in contact will also operate to hold the end plates of the adjacent ducts D in contact, and the devices employed for retaining the end-plates of the hoods laterally and vertically in register with each other will operate to the same end with respect to the end-plates of the air ducts. Such retaining devices are not herein shown, but one form of such devices is illustrated and described in my prior application, Serial No. 414,187, filed December 5, 1891. In the absence of such retaining devices, the end-plates of the hoods will be made wide enough to allow for the slipping motion of one upon the other, and the same will be true of the end-plates of the air ducts.

In my prior application for patent Serial No. 414,187 I have shown and described supporting devices for the car hoods consisting essentially of bars or brackets connected with the outer extremity of the roof of the rigid portion of the car hood and sustaining the end-plate, said support being located in the median line of the car and being adapted to allow the vibrating motion of the end-plate of the car involved in the flexure of the train in passing over curves and also the bodily vibration of the end platform, both in a verti-

cal and horizontal direction, incident to the oscillation of the car in opposite directions and a relative movement of the car ends in a vertical direction. These supporting devices were also shown and described in said prior application as adapted to raise the end-plate of the car hood when the extensible portion thereof is pushed inward and to lower it or allow it to descend correspondingly when the said flexible portion of the hood is being extended, thus giving to the hood a tendency to extend itself by gravity and, by the same force, to hold itself extended or in proper contact with the hood of an adjacent car. In the present application is shown and described a somewhat simplified and improved construction of said supporting device which falls within the claims of said prior application. In this construction the bars or brackets *E'* are made hollow, or otherwise to form a longitudinal recess, as indicated in Figs. 2 and 3, and provided each with a slot *e* in its upper wall through which projects a stud *e'*. The upper end of this stud is pivoted on a vertical axis in the fixed plate *e*<sup>2</sup> and to its lower end is pivoted, upon a horizontal axis, a block *e*<sup>3</sup> which is fitted to slide in the interior of the bracket *E'*, said slide being pivoted to the lower end of the stud *e'* by a horizontal pivot *e*<sup>4</sup>. In other particulars the construction here shown does not differ essentially from that set forth in my aforesaid prior application, and the movements obtained are the same in both cases.

In Fig. 4 I have shown a partially circular casing *A*<sup>10</sup> as extending longitudinally beneath the car-body, from end to end of the same, and as provided with transverse end partitions *A*<sup>11</sup> through which extend the draw-bars *E*<sup>2</sup>. This construction, however, forms no part of my present invention and consequently is not herein claimed.

I claim as my invention:

1. In combination with a car, a hood having a rigid portion extending substantially the width of the platform and provided with an extensible extremity having a practically rigid end plate, an air duct extending lengthwise of the car and having a rigid portion which extends to or beyond the end of the car, and an extensible portion at its extremity which is supported laterally and vertically from the end plate of the hood.

2. In combination with a car, a hood having a rigid portion projecting substantially the width of the platform and provided with an extensible extremity having a practically rigid end plate, an air duct extending lengthwise of the car in the upper portion of the latter and projecting therefrom above the end doorway, said air duct having a flexible portion beneath the hood provided with an end plate flush with that of the flexible portion of the car hood, and a skeleton ornamental metal

support depending from the end plate of the  
car hood and connected with the end plate of  
the air duct whereby the said end plate of the  
air duct is sustained vertically and laterally  
5 and maintained in the plane of the end plate  
of the car hood.

In testimony that I claim the foregoing as

my invention I affix my signature in presence  
of two witnesses.

FREDERICK U. ADAMS.

Witnesses:

M. E. DAYTON,

C. CLARENCE POOLE.