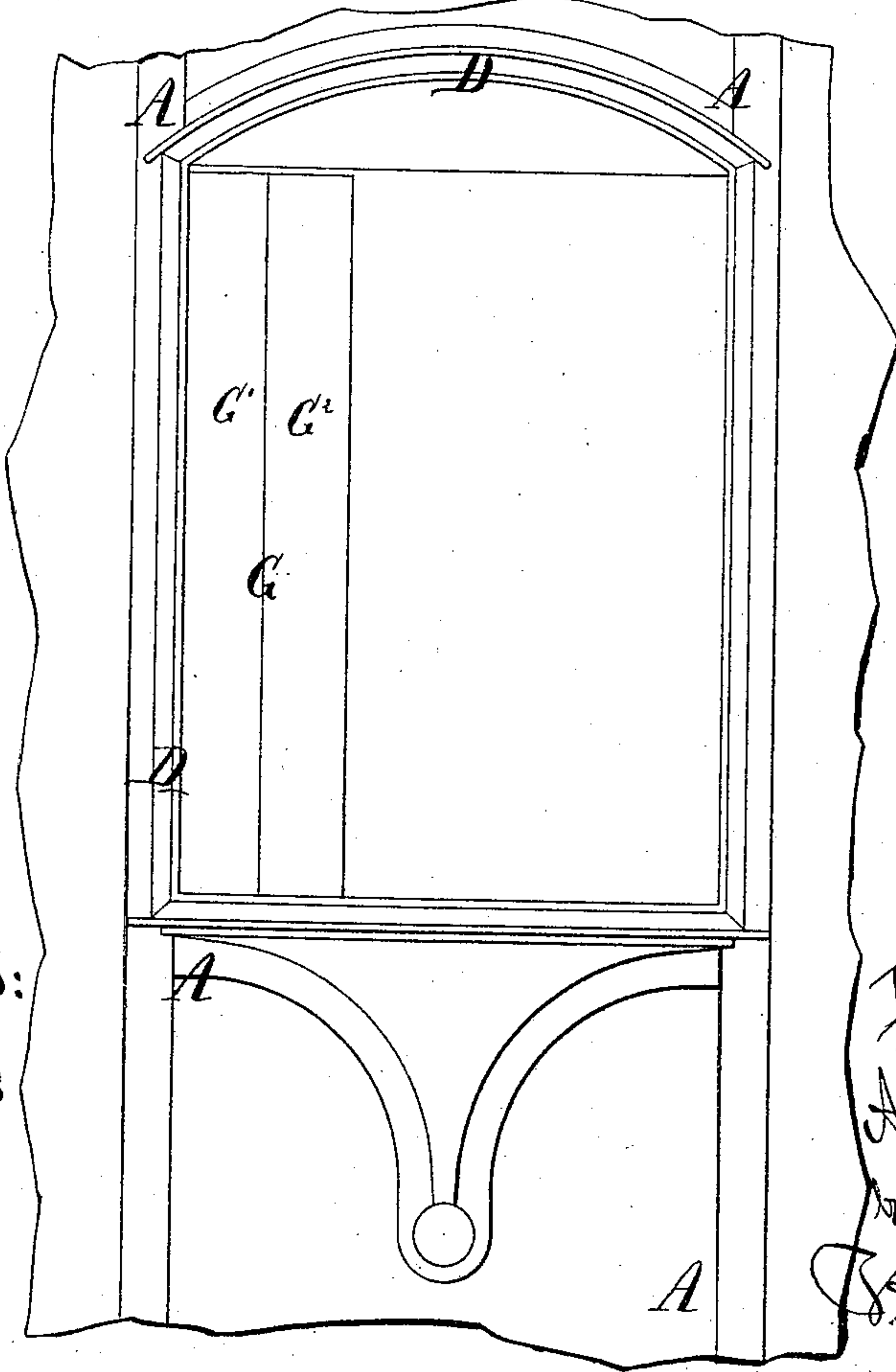
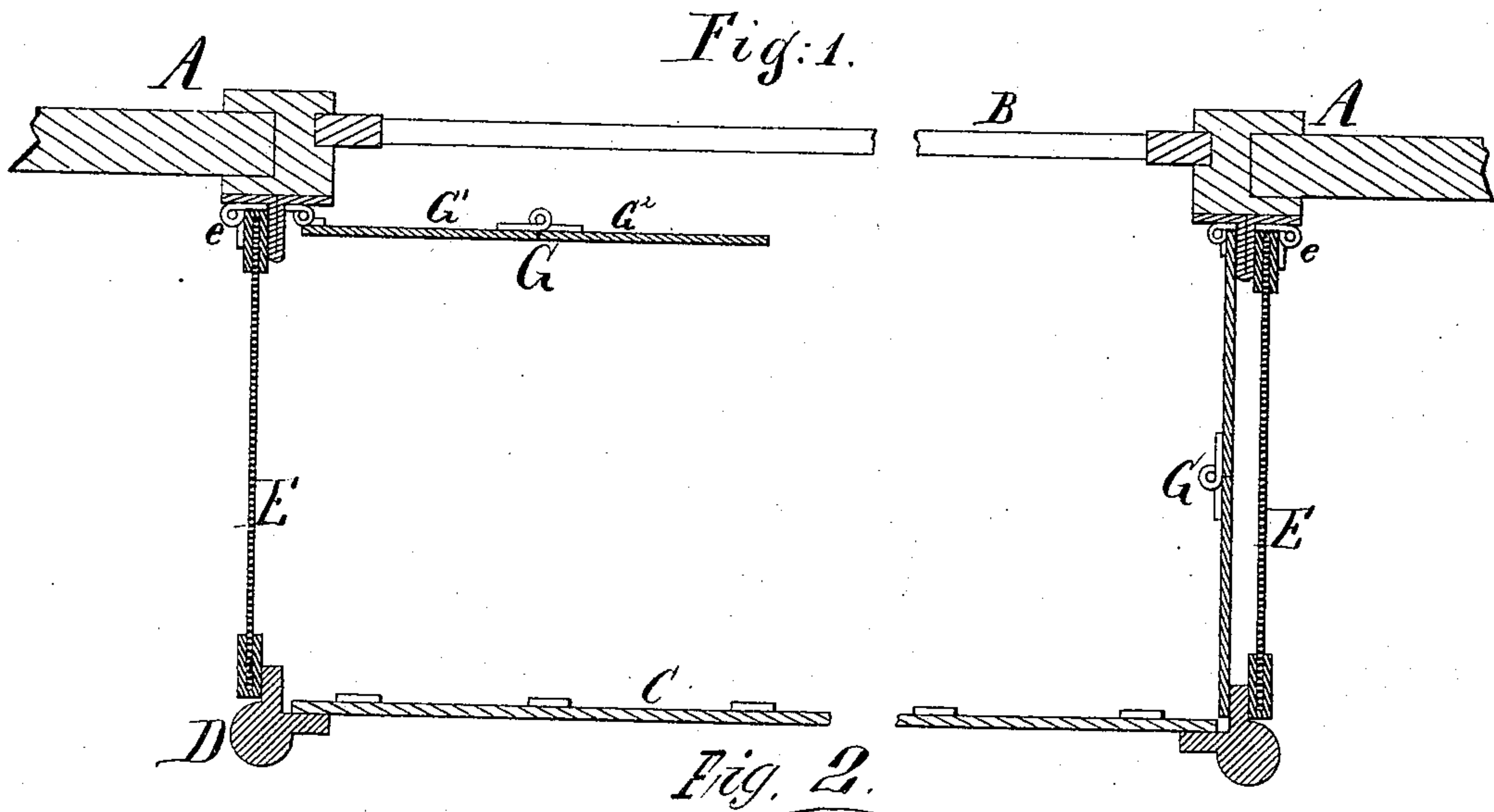


A. BRANDON.  
Railroad Car Window.

No. 169,140.

Patented Oct. 26, 1875.



Witnesses:  
Henry Gintner  
Chas. C. Stetson.

Inventor:  
A. Brandon  
By J. H. Stetson.

# UNITED STATES PATENT OFFICE.

ALEXANDER BRANDON, OF NEW YORK, N. Y.

## IMPROVEMENT IN RAILROAD-CAR WINDOWS.

Specification forming part of Letters Patent No. **169,140**, dated October 26, 1875; application filed July 14, 1875.

*To all whom it may concern:*

Be it known that I, ALEXANDER BRANDON, of New York city, in the State of New York, have invented certain new and useful Improvements relating to Railroad-Car Windows, of which the following is a specification:

Many efforts have been made to construct windows so as to allow the entrance or escape of air by means of windows variously provided with screens and air-deflectors; but all are open to objection. One objection, which applies to nearly all, is the covering of the whole or a portion of the area of the window with air-deflectors or screens, or with some other portions of the apparatus.

I have devised means whereby the whole area of the window can be made available for light, and for viewing the scenery to a greater extent than in the ordinary window with movable sashes, and at the same time present a liberal surface, with or without screens or deflectors to receive air under favorable conditions for forcing it in by the motion of the car, or to exhaust air under favorable conditions by sucking it out by the same motion.

The accompanying drawings form a part of this specification, and represent what I consider the best means for carrying out the invention.

Figure 1 is a horizontal section, and Fig. 2 is a face view from the outside on a smaller scale.

Similar letters of reference indicate like parts in all the figures.

A is a portion of the side of the car. B is the ordinary inside blind, adapted to be raised and lowered in the ordinary manner. It may be made in two or more parts, if desired, and should be so constructed and arranged that when raised it should uncover the whole area of the window. Thus far the construction is of an ordinary and long-approved character.

I project outward from the outside of the car a casing of the full size of the window. The extent to which it is carried out may be varied according to circumstances. Some roads may have the tracks running so near each other, or so near bridge-piers or other obstructions, that less extent is available for such projections than on other roads. Where

there is ample room I propose that the casings shall extend out about seven inches. They should, in all cases, be the full size of the window, with such additional amount at the top as is desirable to shed the water and produce a proper decorative effect. The bottom may be also made ornamental, if preferred.

The outer face of this case is a single sheet of plate-glass. This plate is marked C. The other fixed portions of the casing are marked D. The cars should be adapted to run equally well in both directions. It is, therefore, impracticable to say of either edge that it is to be permanently the front side; but I will so denominate the right-hand edge in this description, it being understood that that edge will be the back side when the car is traveling in the opposite direction.

Both the front and back sides are guarded with two kinds of shields. The outermost is a continuous shield of wire-gauze, E, made sufficiently fine to exclude all the cinders. The fineness of the gauze may be varied, as experience shall decide; but I prefer to make it as open as practicable, in order to allow the freest possible passage of air. This wire-gauze covering E is intended to be always in position for use; but when, for cleaning or repairs, or under any other circumstances, it shall be desirable, it may be turned on the hinges e, being mounted on a slight framing, and secured by screws, catches, or other fastenings.

The inner shield is intended to be opened and closed at short intervals. It may be made in two or more sections, hinged together, as indicated by G<sup>1</sup> G<sup>2</sup>. It is made of thin metal or other tight material, and is hinged and provided with fastenings. (Not represented.) When it is desired to receive air through my improved window and connections the rear door G<sup>1</sup> G<sup>2</sup>, which I will refer to collectively by the single letter G when required, is extended in close proximity to the wire-gauze shield E, and is secured in that position by the catches, (not represented,) while the other (the front) shield G is folded together and placed in or parallel to the plane of the side of the car. Thus conditioned, the air will be received in a strong current through the front wire-gauze E, and as it cannot escape through the rear wire-



gauze, by reason of that gauze being covered by its shield G, it will flow into the car through the ample window-opening. When, under different circumstances, it is desired to exhaust the air through my window, the front side of the window should be covered by the shield G, and the shield G, at the rear side, should be placed in the plane of the side of the car.

Under some circumstances it may be desired to open the shields G both at the front and rear, and allow a current of air to move through the screens E, both at the front and rear, necessarily throwing much of it into the car. This may be found to form a very desirable kind of ventilation.

The shields G may be formed with hinges, which permit of their easy disconnection and removal altogether, to allow of such ventilation in warm weather. For general use, however, I esteem it better that they shall be hinged as represented. By extending both the shields G inward toward each other, or, in other words, placing both shields in the plane of the side of the car, the window will be partially covered, and the induction of air will be thereby lessened. This may be desirable under some circumstances.

The rear shield G may be frequently of great use in shielding the persons who sit behind the occupant in the rear of the window. Every one has experienced the inconvenience, in the ordinary American railroad-car, that the window immediately adjacent to the elbow of a passenger, and which is naturally controlled by him, does not throw its wind mainly upon him when it is opened, but the wind therefrom is more felt by one or more of the passengers in the rear of him, and who have no direct control of his window.

My invention will tend to relieve this difficulty by putting it in the power of the person in control of the window to shield the passenger in the rear of him from a large portion of the current of air by properly placing the rearmost shield G.

Many modifications of the details may be made by any good mechanic without departing from the principle of the invention. One very obvious modification would be to construct the window C in two or more separate panes of glass. I prefer, however, to make this window in a single plate. I esteem the invention best adapted for palace-cars and analogous high-priced cars.

I claim as my invention—

1. In combination with a window, C, held outward from the plane of the side of the car by a framing, D, the foraminous screens E, adapted for excluding cinders, as herein specified.

2. The hinged screens G, in combination with the framing D and projected window C, as herein specified.

3. The car-body A, inside blind B, projecting framing D, window C, foraminous screens E, and tight screens G, combined and arranged for joint operation as and for the purposes herein specified.

In testimony whereof I have hereunto set my hand this 13th day of July, 1875, in the presence of two subscribing witnesses.

ALEX. BRANDON.

Witnesses:

HENRY GENTNER,  
CHAS. C. STETSON.