

(No Model.)

2 Sheets—Sheet 1.

G. S. POWELL, W. B. WILLIAMSON & R. A. HAVNER.  
STORM FRONT FOR RAILWAY CARS.

No. 495,369.

Patented Apr. 11, 1893.

FIG. 1.

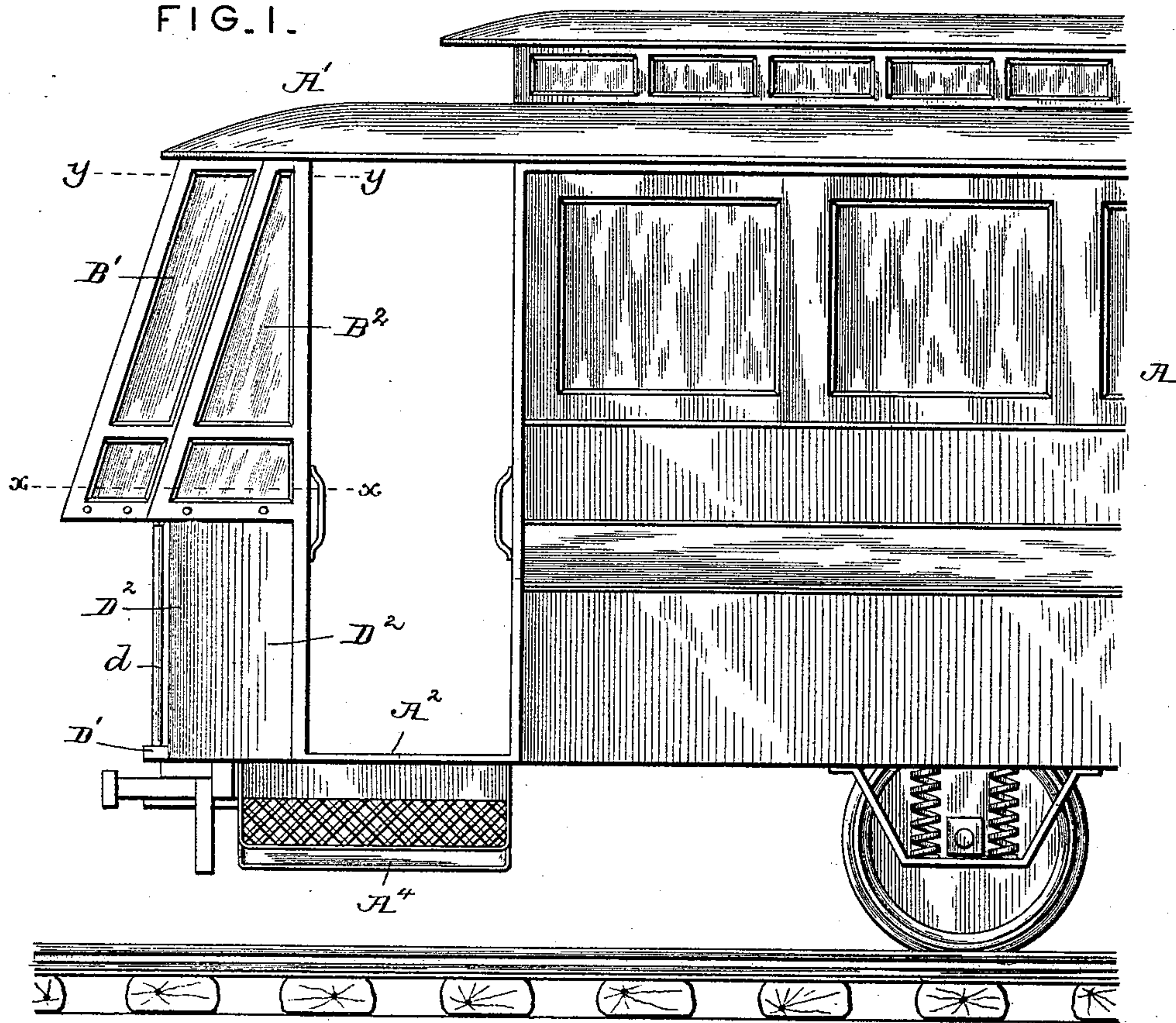
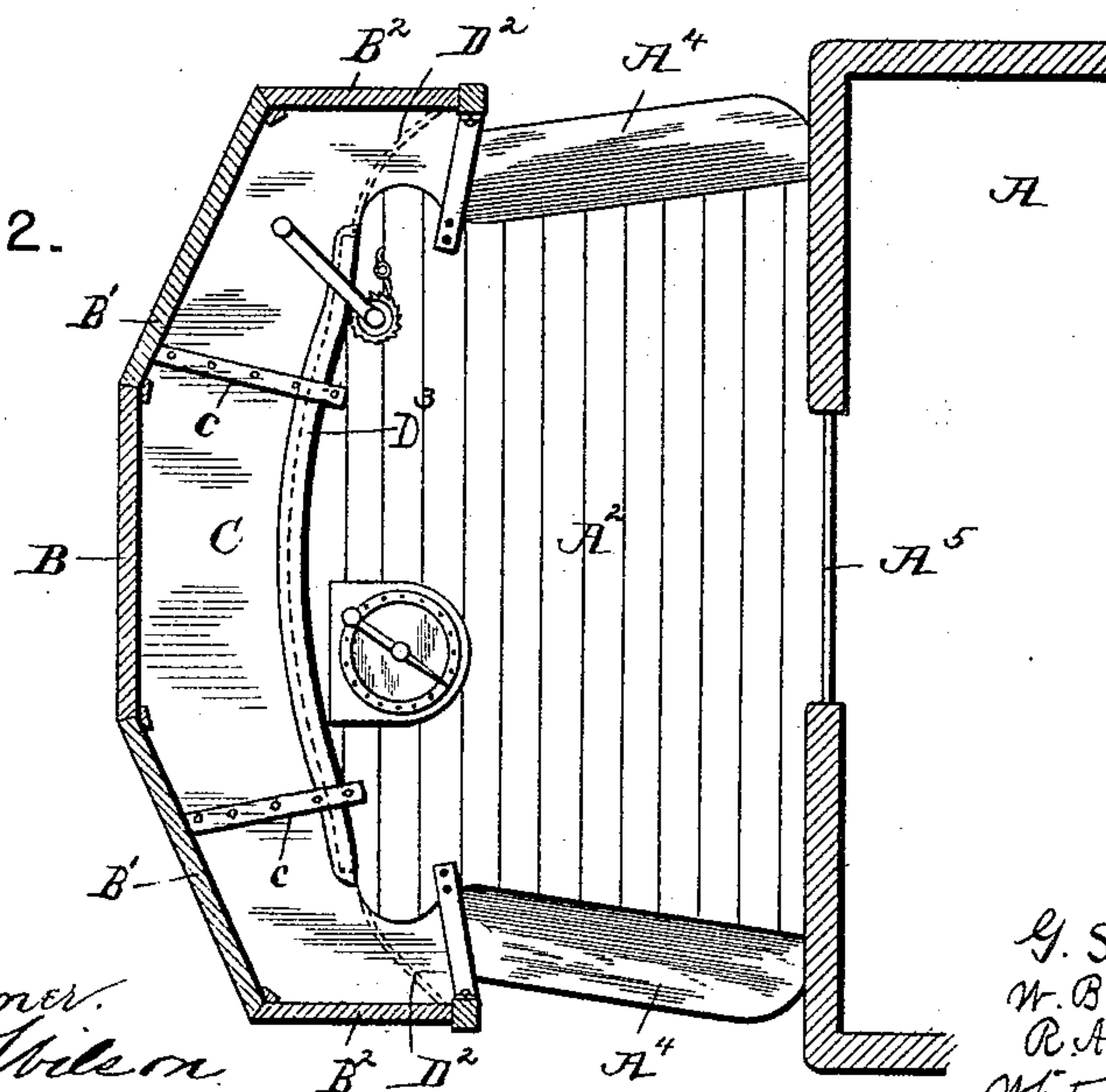


FIG. 2.



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FIG. 3.

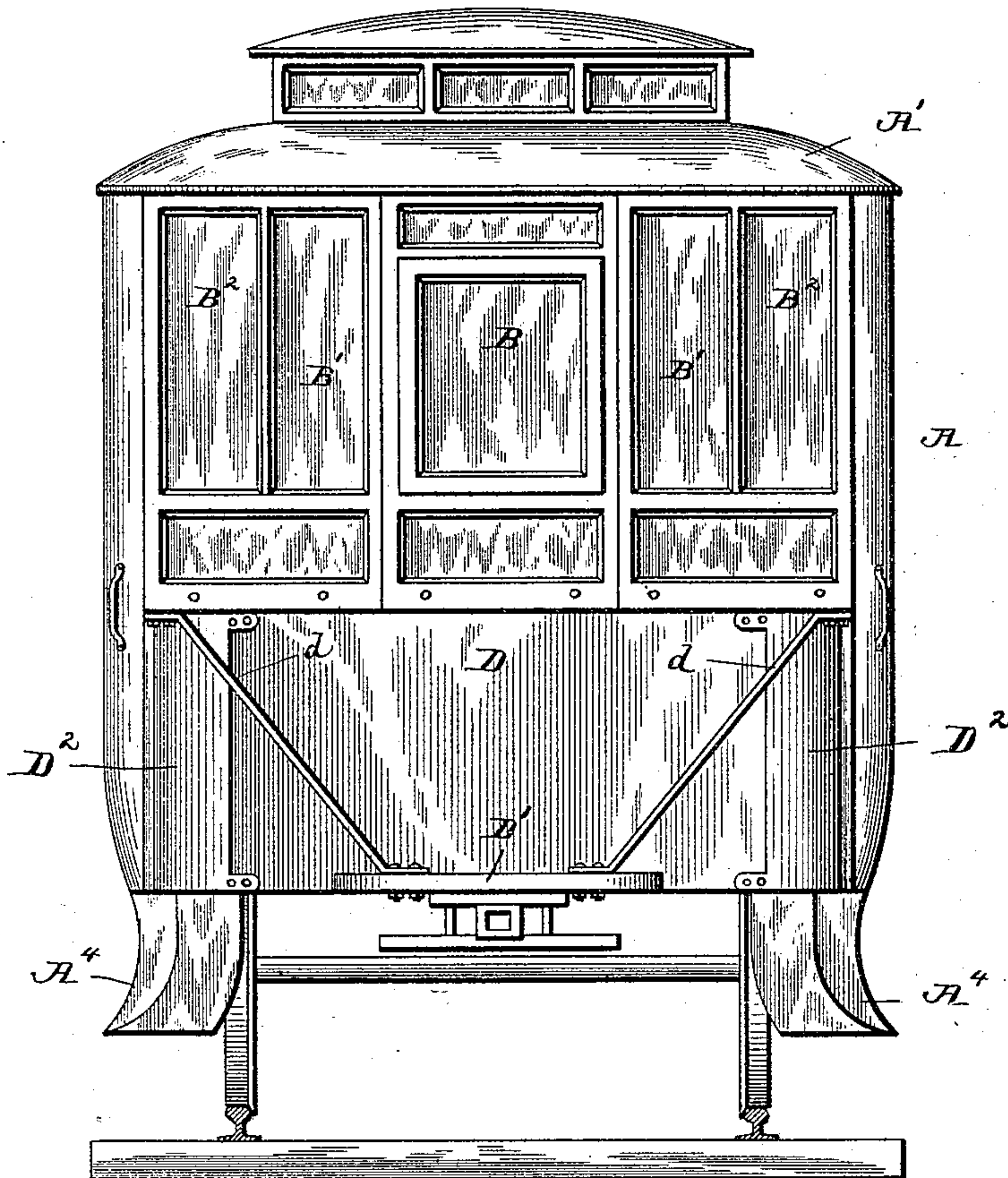


FIG. 7.

FIG. 6.

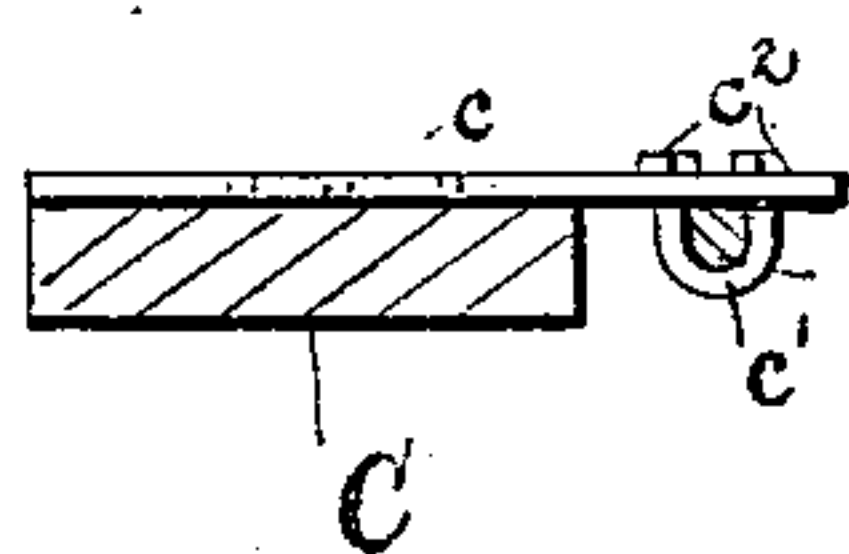


FIG. 4.

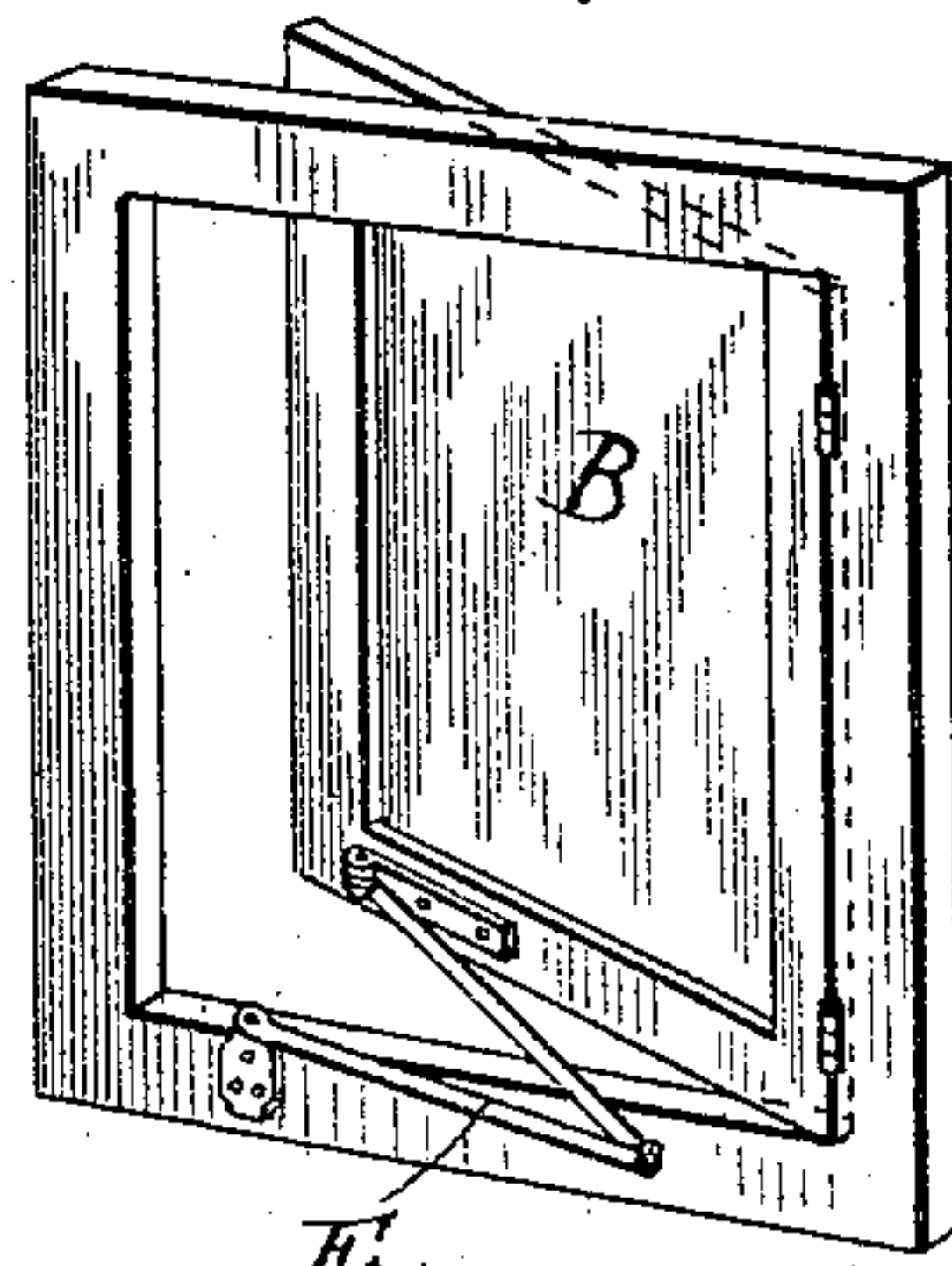
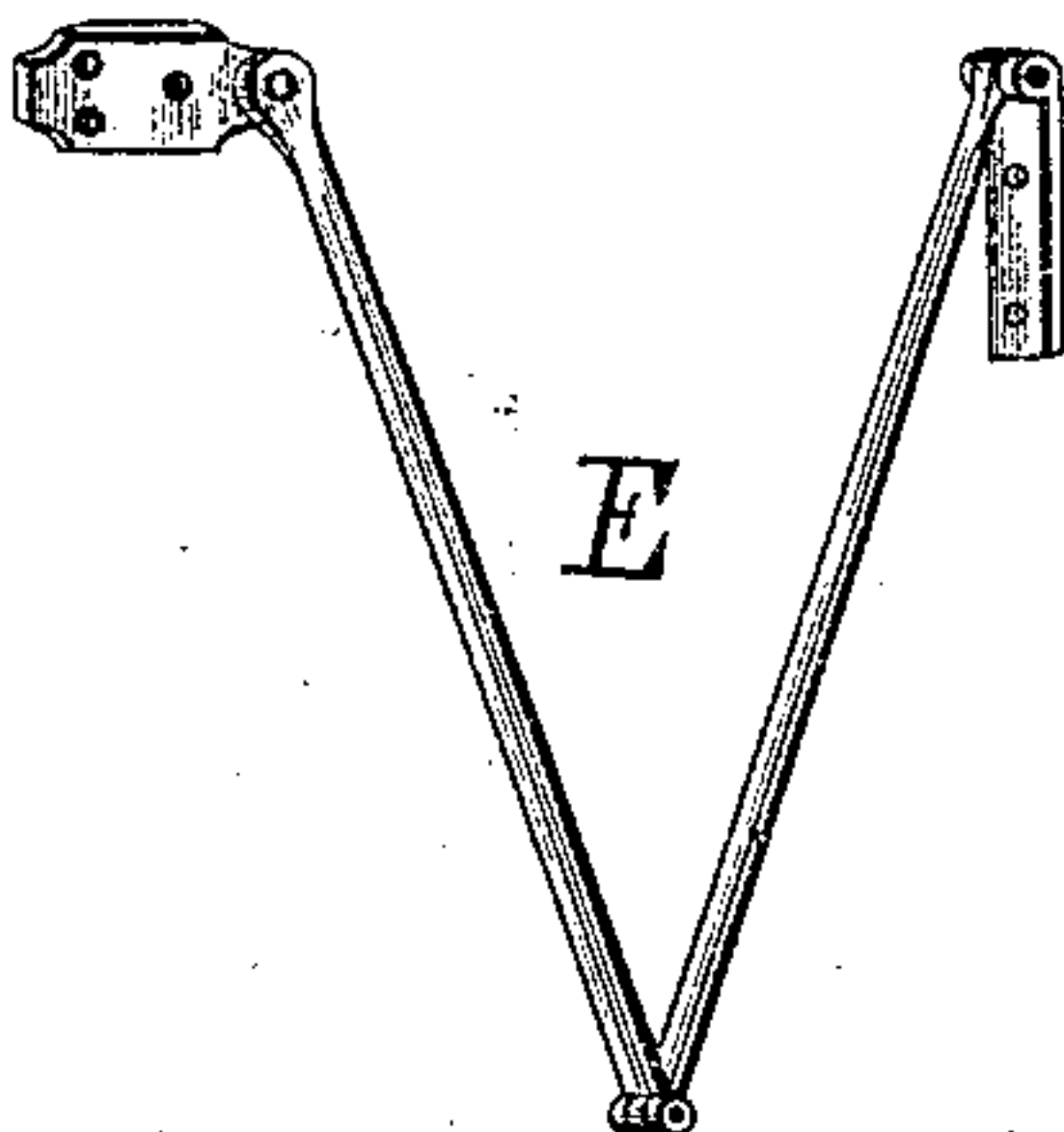
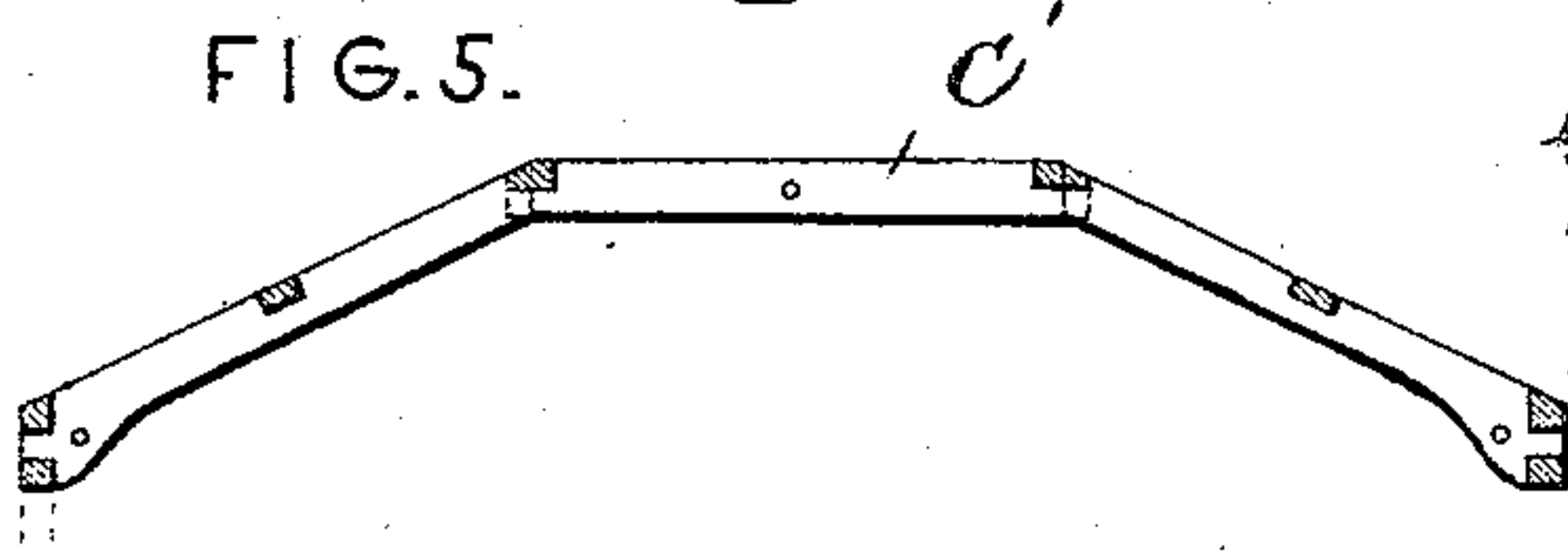


FIG. 5.



Witnesses

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# UNITED STATES PATENT OFFICE.

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OF ASHEVILLE, NORTH CAROLINA, ASSIGNORS OF ONE-HALF TO GEORGE  
T. DAVIS, OF SAME PLACE.

## STORM-FRONT FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 495,369, dated April 11, 1893.

Application filed January 25, 1893. Serial No. 459,710. (No model.)

*To all whom it may concern:*

Be it known that we, GEORGE S. POWELL, WILLIAM B. WILLIAMSON, and ROBERT A. HAVNER, citizens of the United States, residing at Asheville, in the county of Buncombe and State of North Carolina, have invented certain new and useful Improvements in Detachable Storm-Fronts for Railway-Cars; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to detachable storm fronts for street railway cars, and especially for such cars as are adapted to travel in either direction, and it consists of certain novel features hereinafter described and claimed.

Reference is had to the accompanying drawings, in which the same parts are indicated by the same letters throughout the several views.

Figure 1 represents a side elevation of one end of the street railway car fitted with the improved storm protector. Fig. 2 represents a section along the line  $xx$  of Fig. 1. Fig. 3 represents a front or rear view of one of the cars fitted with the device. Fig. 4 represents a device for holding the central panel or sash open or closed, and Fig. 5 represents a section of the device shown in Fig. 1, along the line  $yy$ , looking up, and illustrates the upper frame which is fastened to the car roof. Fig. 6 illustrates the method of attaching the shelf to the dasher rail, and Fig. 7 represents an interior view of the center frame and illustrates the device for holding the window open or closed.

A represents the body of the car, provided with a roof of the ordinary type  $A'$ , a front and rear platform  $A^2$ , and steps  $A^4$ , and door  $A^5$ .

The dasher D, is attached to the end of the car in the usual way, and is provided with a bumper  $D'$ , and extension plates, preferably made of sheet iron  $D^2$ . Mounted over the dasher is a board or shelf C supported by the upper edge  $D^3$  of the dasher, and by the struts  $c$  projecting in front of the dasher beneath the said shelf. This shelf C has five faces to which the panels B,  $B'$ , and  $B^2$  are bolted. These panels are secured at their upper ends to the frame  $C'$  shown in Fig. 5, which is bolted to the under side of the car roof. The panels

$B'$  and  $B^2$  are provided with fixed panes of glass, while the panel B has a window sash therein which may be opened from within, and which is provided with a device E for holding the same open or closed as desired. This sash is preferably large enough to allow the conductor or motor-man to adjust the trolley from the end of the car without going outside. The shelf C, frame  $C'$ , and panels B,  $B'$ ,  $B^2$ , are put together away from the car, and may be readily put into position or removed. Bolts through the frame  $C'$  and the roof of the car hold the upper frame in position, while the lower frame or shelf C is supported by the dasher, and is quickly secured in place by straps  $c$  secured to the dasher rail  $D^3$  by loops  $c'$  and nuts  $c^2$ , the shelf C being secured beneath the said straps  $c$ . Stay-bolts  $d$  leading from the bumper  $D'$  to the under side of the shelf C and secured thereto, prevent any lateral play of the said shelf. The shelf C projecting some distance over the dasher allows the free use of the brake-handle, and free motion to the arm of the electric speed indicator. The sides of the car over the steps  $A^4$  are left open. It will thus be seen that a readily detachable storm front is provided, which will afford great protection to the conductor and motor-man, and will prevent drafts through the car, and that the said storm front may be removed at any time, as in summer, without disfiguring the car.

Having thus described our invention, what we claim, and desire to secure by Letters Patent of the United States, is—

In a street railway car, the combination with the platform  $A^2$ , the dasher D and the roof  $A'$  overhanging said platform, of the shelf C mounted on said dasher, the frame  $C'$  attached to the said roof, the panels B,  $B'$  and  $B^2$  connecting said frame  $C'$  and said shelf C, and a window sash hinged in the central one of said panels, substantially as and for the purposes described.

In testimony whereof we affix our signatures in presence of two witnesses.

GEORGE S. POWELL.

WILLIAM B. WILLIAMSON.

ROBERT A. HAVNER.

Witnesses:

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