J. STEPHENSON.

Street-Car.

No. 161,565. Patented March 30, 1875.

FIG. I.

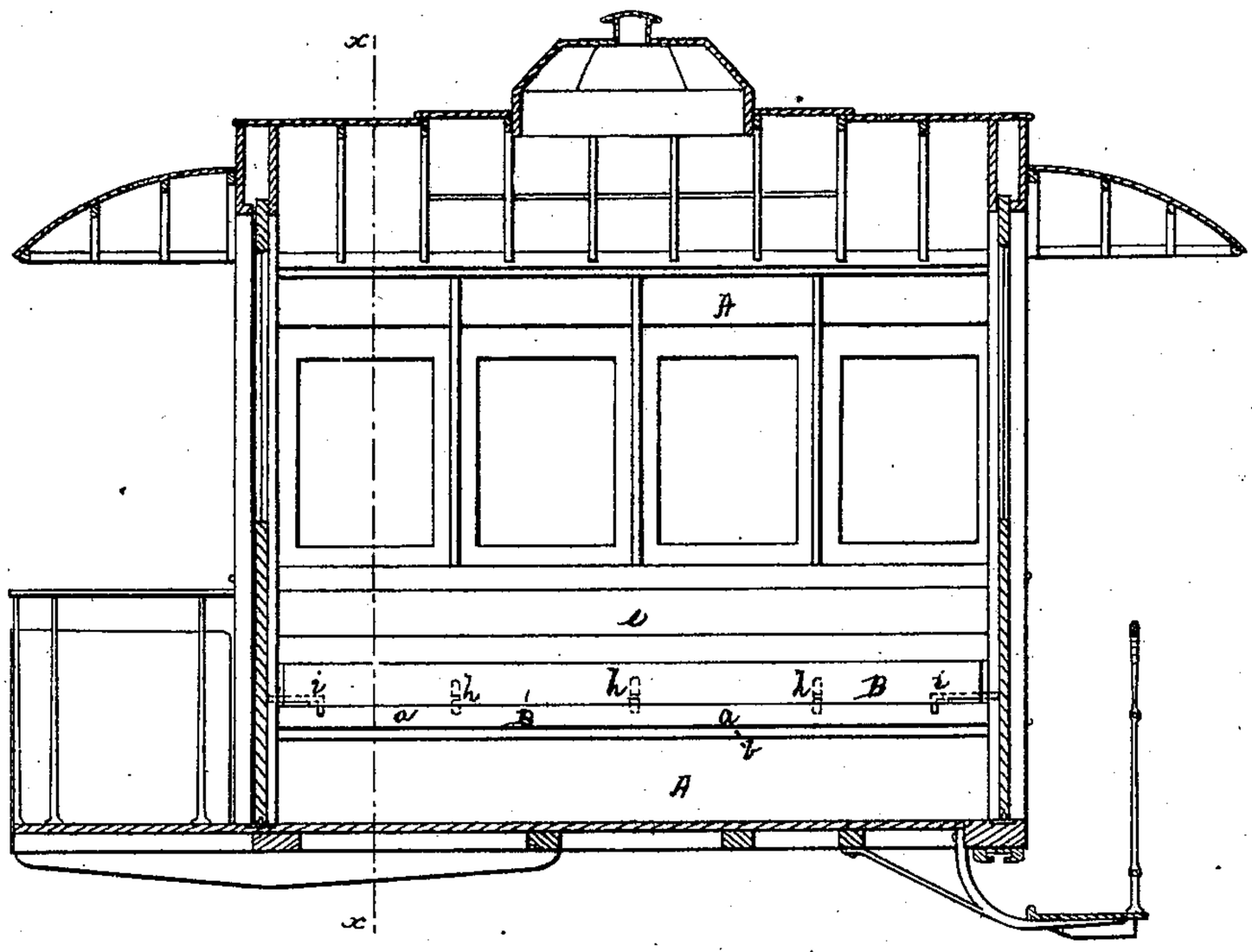


FIG. II.

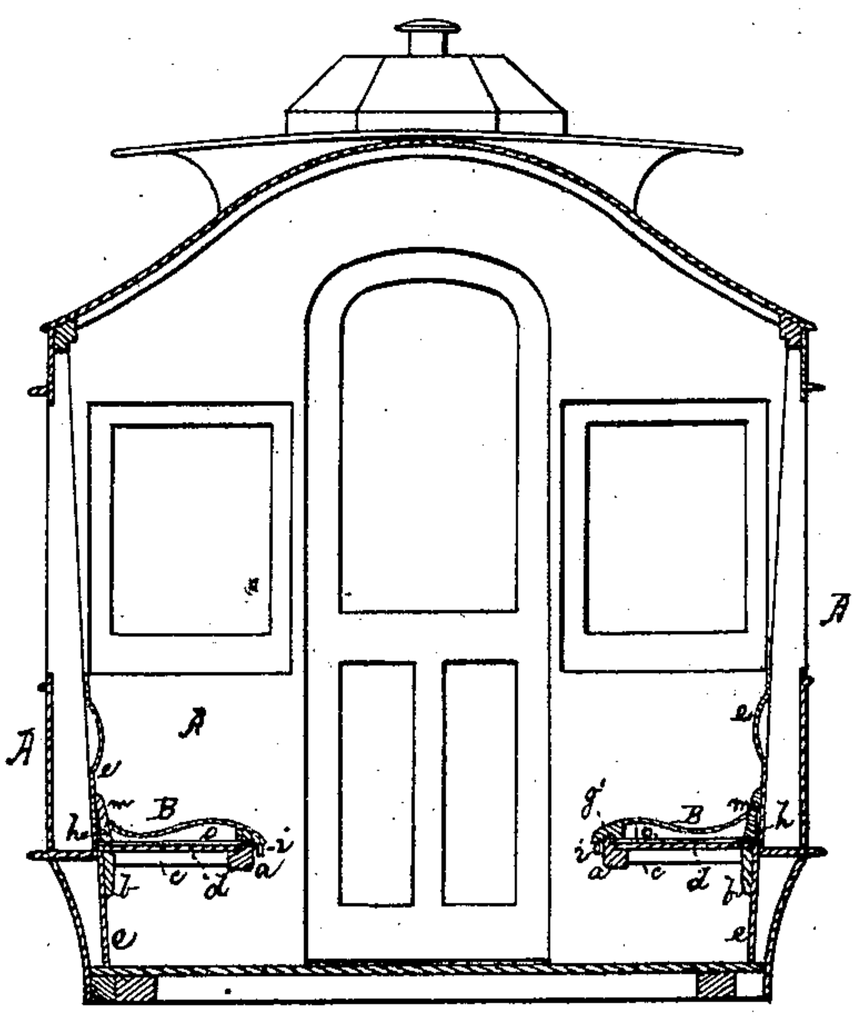


FIG. III.

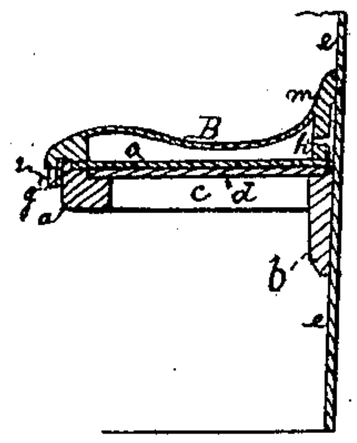
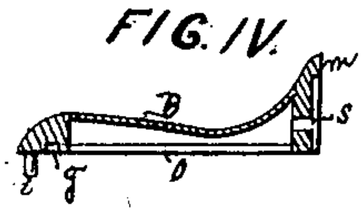


FIG. IV.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN STEPHENSON, OF NEW YORK, N. Y.

IMPROVEMENT IN STREET-CARS.

Specification forming part of Letters Patent No. **161,565**, dated March 30, 1875; application filed March 2, 1875.

CASE G[5].

To all whom it may concern:

Be it known that I, JOHN STEPHENSON, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Street-Cars; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings and to the letters of reference marked thereon, which form a part of this specification, in which—

Figure 1 represents a vertical longitudinal section of the body of a street-car having my improvements applied thereto, as taken through the middle of the car, the running-gear and appliances for operating the rear entrance-door being removed. Fig. 2 represents a vertical transverse section of the same, as taken through the line *x x* of Fig. 1. Fig. 3 represents a detached sectional view of the car-seat and portion of the inside wall of car-body, showing the details of construction, the view for this purpose being slightly enlarged. Fig. 4 represents a sectional view of the removable seat.

For some time past upholstered seats have, for sanitary and other reasons, become obnoxious to the public, and have, in a measure, if not entirely, been superseded by wooden seats. These, while made of suitable and convenient shape, have been very imperfectly secured to the car, the present mode of putting them together allowing them frequently to become distorted. This distortion causes an imperfect fit between the seat and the adjoining parts, which not only presents an objectionable appearance, but, because of instability, causes the imperfect joints to catch and rend the garments of the passengers. In addition to these objectionable features, the wooden seat has been heretofore secured to the car in a permanent manner, which for several reasons is also objectionable.

To remedy these evils is the object of my invention, which consists, first, in constructing the car with a removable seat or seats; and, secondly, in so constructing the car and its seat or seats that the ends and rear edge of the latter will be so connected to the ends and inner side or wall of the car that distortion cannot take place.

To enable others skilled in the art to make, construct, and use my invention, I will now proceed to describe it in detail, omitting a particular description of such parts of a car-body as are non-essential to a full understanding of my improvement.

The car-body may be of the usual or of any other suitable construction, so far as this improvement is concerned. A car-body, A, of suitable construction is shown in the drawings. At a suitable height from the floor is arranged a beam, *a*, for the support of the front side of the seat B, the ends of which rest on, and are respectively secured to, the front and rear ends or walls of the car. A similar rail, *b*, is arranged along and secured to the face of the inner side wall of the car, as shown in Fig. 2, for the support of the rear side of the seat B, there being end rails *c* secured to the respective ends of the car for a similar purpose. Usually I arrange a false bottom or lining, *d*, in the seat-support, formed by rails *a* and *b* and end pieces *c c;* but such, although desirable, is not absolutely necessary. If desired, rail *a* need not be let into the end walls of the car, but may be supported on standards or legs suitably arranged and secured for that purpose to the floor and walls of the car. The rail *b* may or not be let into the end walls; but it is not deemed necessary so to do, as it can otherwise be sufficiently and firmly secured to the inner wall *e* of the car without such additional support. Upon this frame the car-seat proper is placed. This car-seat B is provided with a groove, *g*, on the under side of its front edge, into which a tenon, *g'*, formed on the edge of the upper side of the front rail *a* fits. This tongue and groove prevents the seat from sliding outwardly from off its supporting-rails *a* and *b*. In addition to the groove *g*, and immediately adjoining it, the seat B at each end is provided, on the under side of its front edge, with a slide-bolt, *i*, or other equivalent device, wherewith to secure it to the rail *a*, or to the ends of the

car, a suitable socket, eye-hook, or mortise for the purpose being secured to rails *a*, or formed in each end of the car. These bolts serve to keep the front edge of the seats down to their place, while the back edge is kept firmly down by a series of tenons or dowels, *h*, secured to the wall or pillars of the car, which take into corresponding mortises cut in the back edge of the seat. If desired, the dowels *h* may be transferred to the back edge *m* of the seats B, and the mortises to the wall *e* of the car; or, instead of these, a single tongue and groove running the length of the seat may be used; but the other is preferred; and with respect to the slide-bolt, it, if desired, may be secured to rail *a*, and the eye-hook or socket to the under side of the front edge of the seat; but I prefer the latter to carry the bolt. Instead of using but two bolts, one at each end of the seat, three or more may be used, one or more being arranged between the ends; or, instead of slide-bolts being used for the middle points, swivel or pivoted hooks may be used in connection with the eyebolts. Where the slide-bolts are made to take into sockets cut in the ends of the car, the tongue and groove *g* and *g'* may be dispensed with; but I prefer still to use them. Thus constructed, the seat B can be easily removed and put back again for any purpose whatever, and yet not be subject to the distortion common to other wooden seats, as heretofore constructed. This mode of securing the seat to the car gives great rigidity to the back of the seat, as it involves a stout back edge, *m*, in order that the dowels may find a firm hold, and means of keeping the seat in place.

In making the seat itself, I prefer to make it as represented in the drawing—that is to say, thin between the front and rear edges, and of curved or ogee form, which gives it a certain degree of elasticity, that renders it more grateful to its occupants than if it were perfectly rigid. When so made, the front and rear edges are bound together by cross-pieces *o*, in order that the seat may retain its form, and that the weight of the passengers may be prevented from pressing too strongly against the tenon *g* of rail *a*.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination with a car-body, a removable seat, B, substantially as set forth.

2. A removable car-seat, B, in combination with the dowels *h* and car-body, substantially as and for the purpose set forth.

3. A removable car-seat, in combination with bolts *i* and car-body, substantially as and for the purpose set forth.

4. A removable car-seat, B, in combination with bolts *i*, rail *a*, and hooks and sockets, substantially as and for the purpose set forth.

5. A removable car-seat, B, in combination with bolts *i*, dowels *h*, and car-body, substantially as and for the purposes set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JOHN STEPHENSON.

Witnesses:
WM. JOHN WALKER,
JOHN SMITH.