No. 768,896. PATENTED AUG. 30, 1904.

C. FLEISCHMAN.

RAILWAY CAR.

APPLICATION FILED JAN. 20, 1904.

NO MODEL.

Fig. 1.

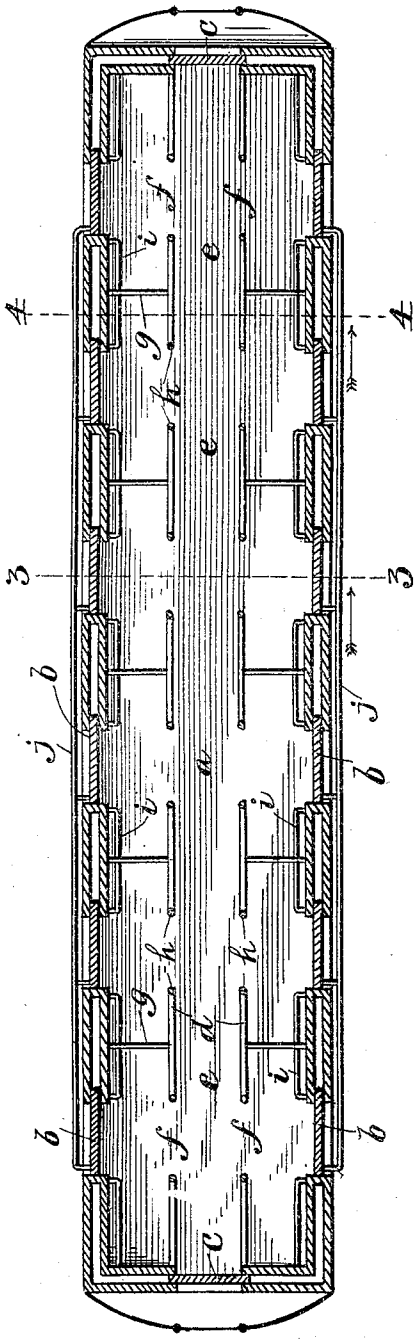


Fig. 4.

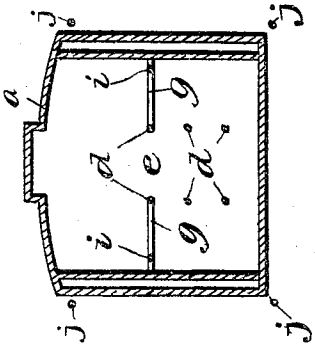


Fig. 3.

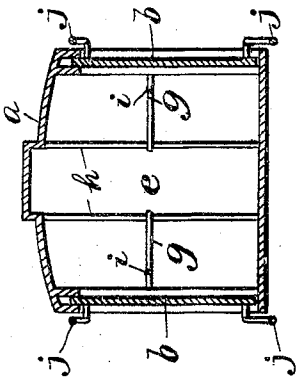
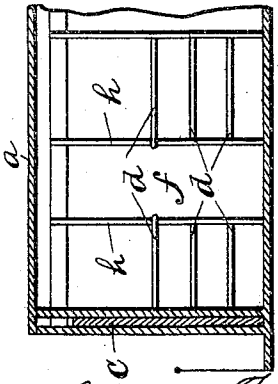


Fig. 2.



Witnesses

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No. 768,896. Patented August 30, 1904.

UNITED STATES PATENT OFFICE.

CHARLES FLEISCHMAN, OF BROOKLYN, NEW YORK.

RAILWAY-CAR.

SPECIFICATION forming part of Letters Patent No. 768,896, dated August 30, 1904.

Application filed January 20, 1904. Serial No. 189,883. (No model.)

To all whom it may concern:

Be it known that I, CHARLES FLEISCHMAN, a subject of the Emperor of Austria-Hungary, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Railway-Cars, of which the following is a specification.

My invention relates to railway-cars, and more particularly to electric or other rapidly-propelled cars, either subway, surface, or elevated; and its objects are to provide an interior arrangement that will allow of accommodating a much greater number of passengers to a given floor-space than can be accommodated in the cars now generally in use and to also provide a great number of entrances and exits in proper relation to the interior arrangement, so that great crowds of passengers can board and leave the cars in the shortest possible space of time.

It is well known that during the so-called "rush hours," the opening and closing hours of each day's business in all large centers of population, immense crowds must be carried from the residence to the business portion of the city, and vice versa, and the present equipment of rapid-transit systems has been found particularly insufficient in cities like New York, admitting of only a limited number of railway-lines to carry the entire traffic of the city. To enable these rush-hour crowds to be efficiently and rapidly handled, especially for short-distance riders, I have conceived the idea of providing a railway-car for the accommodation of standing passengers only—that is, a car wholly without seats and having in place of the "hanging-straps" now in use for standing passengers a system of rest-rails offering a positive and stable support in convenient height and so arranged with relation to the floor-space that a large number of doors may be placed in the car sides to be used for entrances and exits.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result, reference is to be had to the following description and accompanying drawings.

While the application to a railway-car of the essential and characteristic features of my invention is susceptible of modification, still the preferred embodiment thereof is illustrated in the accompanying drawings, in which—

Figure 1 is a horizontal sectional view of one of my improved cars. Fig. 2 is a partial longitudinal sectional view of a car. Figs. 3 and 4 are transverse sectional views on lines 3 3 and 4 4 of Fig. 1.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Referring to the drawings, *a* represents a railway-car body of usual construction, provided on each side with a plurality of symmetrically-arranged sliding doors *b* and at each end with a sliding door *c*. The whole floor-space of the car is taken up by a convenient arrangement of the hereinbefore-mentioned rest-rails, the preferred embodiment of such arrangement embracing two parallel rows of rest-rails *d*, extending the length of the car between the doors *c* and forming a central longitudinal aisle or passage *e*, said parallel rows being interrupted at points opposite the doors *b*, so as to form transverse aisles or passages *f* across the car between said doors. In the spaces between the doors and extending transversely of the car are rest-rails *g*, connecting the longitudinal rest-rails *d* and the side walls of the car. At each end of the interrupted portions of the longitudinal rows *d* are placed stanchions *h*, which extend from the floor to the roof of the car and may be used for supporting said roof, as well as the rest-rails themselves. The rest-rails are more particularly shown in detail by Figs. 2, 3, and 4, from which it is seen that the longitudinal rests *d* are preferably in the nature of a fence having two or more parallel rails, while the transverse rests *g* are preferably formed of a single rail only at the height of the topmost rail of the rests *d*. These top rails or their top surfaces, together with the portions of the stanchions above the levels of the top rails and all other portions adapted to come in contact with the hands of passengers, are preferably formed of wood or wood-incased, while the lower rails

and lower portions of the stanchions may be of metal or any other suitable material, as may be desired, The reason for this is apparent, as a surface must be provided that will be agreeable to the hands of passengers, but which at the same time will be sightly and durable, while the supporting means for the rails must be firm and strong. These top rails are preferably about three and one-half feet in height from the floor of the car—that is, they are placed at such a height that they are convenient to lean or rest upon, as well as to hold or grasp, so as to permit of the passengers steadying themselves without effort against the motion of the car. It should be especially noted that this arrangement of rest-rails and stanchions admits of passengers being on both sides of rails and on all sides of the stanchions, which allows of the entire floor-space of the car being utilized for the accommodation of passengers and at the same time furnishes a convenient, comfortable, and readily-accessible supporting means, besides permitting easy and rapid ingress and egress of the passengers. The inner walls of the car between the doors may also be provided with rest-rails *i*, if so desired. In brief, a system of suitable rest-rails is provided within the body of the car and so arranged as to comfortably accommodate the greatest possible number of passengers on the car's floor-space.

An interior arrangement which does away with seats does away at the same time with the side obstruction which the seats constitute in the cars now generally in use and allows of the side walls being utilized to place therein a plurality of doors, thus providing entirely adequate means for rapidly filling and emptying the car. The preferred embodiment of these means consists in a series of the usual sliding doors, as shown in Fig. 1 of the drawings, the rails on which these doors hang being preferably slightly inclined, so as to give them a tendency to close of their own weight by gravity, and they are preferably connected at their upper and lower extremities by two rigid bars *j*, permitting all the doors on one side to be opened and closed together from any one point, as by a guard stationed at any door or at either end of the car or on the station-platform. The whole series of sliding doors are preferably operated by hand; but, if desired, a mechanical device can easily be applied to facilitate their opening and closing from any desired point.

Obviously my invention may be used in widely-varying specific arrangements of the rest-rails and stanchions, and some features may be used without others.

Therefore, without limiting myself to the construction shown and described nor enumerating equivalents, I claim, and desire to secure by Letters Patent, the following:

1. A railway-car provided with a system of horizontal rails or bars extending over the floor-space thereof and adapted to be used as rests for the support of standing passengers and forming between them seatless spaces for the accommodation of such passengers, substantially as described.

2. A railway-car provided with a system of horizontal and vertical rails or bars extending over the floor-space thereof and adapted to be used as rests for the support of standing passengers and forming between them seatless spaces wherein said passengers may stand, substantially as described.

3. A railway-car having a series of rest-rails extending the length of the car and forming between them passage-ways and open, seatless spaces for standing room for passengers, substantially as described.

4. A railway-car having a series of horizontal and vertical rest-rails extending the length of the car and forming between them passage-ways and open, seatless spaces for standing room for passengers, substantially as described.

5. A railway-car having an interrupted series of rest-rails extending longitudinally of the car and leaving uninterrupted standing-room spaces between the rails and the side walls of the car, substantially as described.

6. A railway-car having an interrupted series of rest-rails extending longitudinally of the car, stanchions at the points of interruption, and uninterrupted standing-room spaces between the rails and the side walls of the car and around the stanchions, substantially as described.

7. A railway-car having an interrupted series of rest-rails extending longitudinally of the car, in combination with doors in the side of the car, said doors being located opposite the interruptions of the rails, substantially as described.

8. A railway-car having an interrupted series of rest-rails extending longitudinally of the car, stanchions at the points of interruption and doors in the side of the car between the ends of the rails and opposite the stanchions, substantially as described.

9. A railway-car having a series of horizontal rest-rails for passengers, said rails being separated longitudinally and transversely of the car leaving spaces for the entrance and exit of passengers around the ends of said rails and standing room from side wall to side wall of the car, said series of rails extending the length of the car, substantially as described.

10. A railway-car having a series of rest-rails extending the length of the car, comprising centrally-arranged, substantially parallel rails and transverse rails extending at an angle thereto to the side walls of the car, said series of rails forming between and about them passage-ways and open, seatless spaces for standing room for passengers, substantially as described.

11. A railway-car having a series of rest-rails extending the length of the car comprising stanchions arranged centrally of the floor-space, substantially parallel longitudinal rails connecting said stanchions and transverse rails at substantially right angles to said longitudinal rails extending to the side walls of the car, said series of rails forming between and about them passage-ways and open, seatless spaces for standing room for passengers, substantially as described.

12. A railway-car having a series of rest-rails extending the length of the car comprising, stanchions arranged centrally of the floor-space, substantially parallel longitudinal rails connecting said stanchions and transverse rails at substantially right angles to said longitudinal rails extending to the side walls of the car, said series of rails forming between and about them passage-ways and open, seatless spaces for standing room for passengers, in combination with doors in the side of the car between the ends of the rails and opposite the stanchions, substantially as described.

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

CHARLES FLEISCHMAN.

Witnesses:

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JOSEPH OPPENHEIMER.