

No. 714,640.

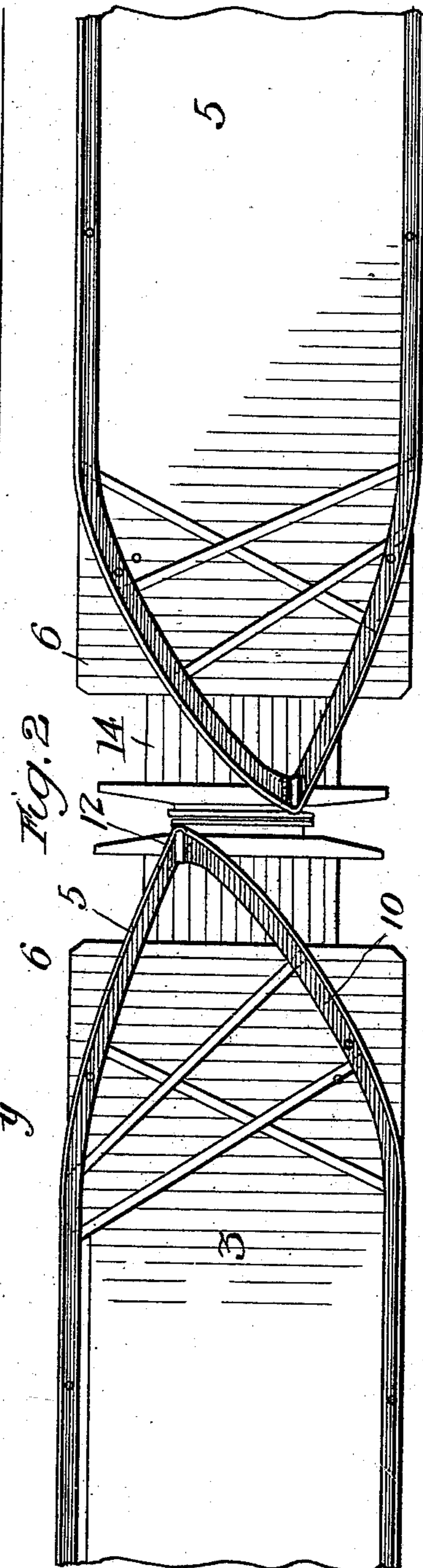
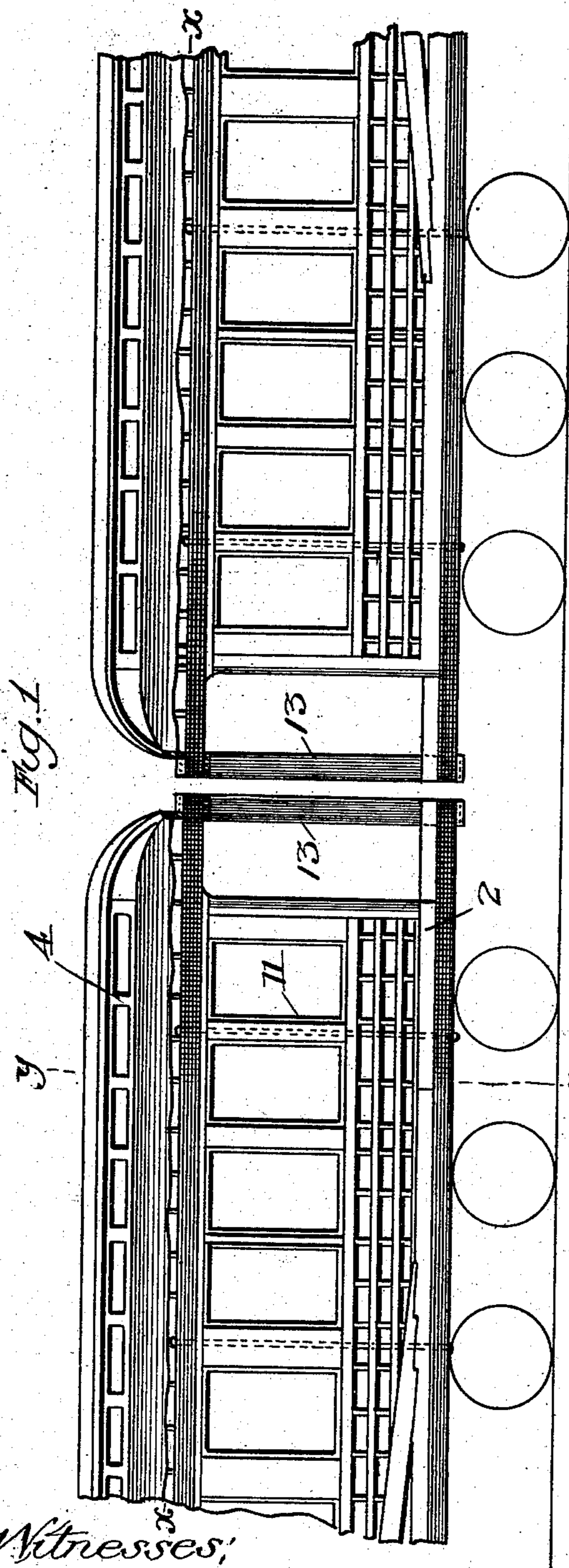
Patented Nov. 25, 1902.

G. E. DICKSON.  
NON-TELESCOPING CAR.

(Application filed Apr. 10, 1901.)

(No Model.)

3 Sheets—Sheet 1.



Witnesses:

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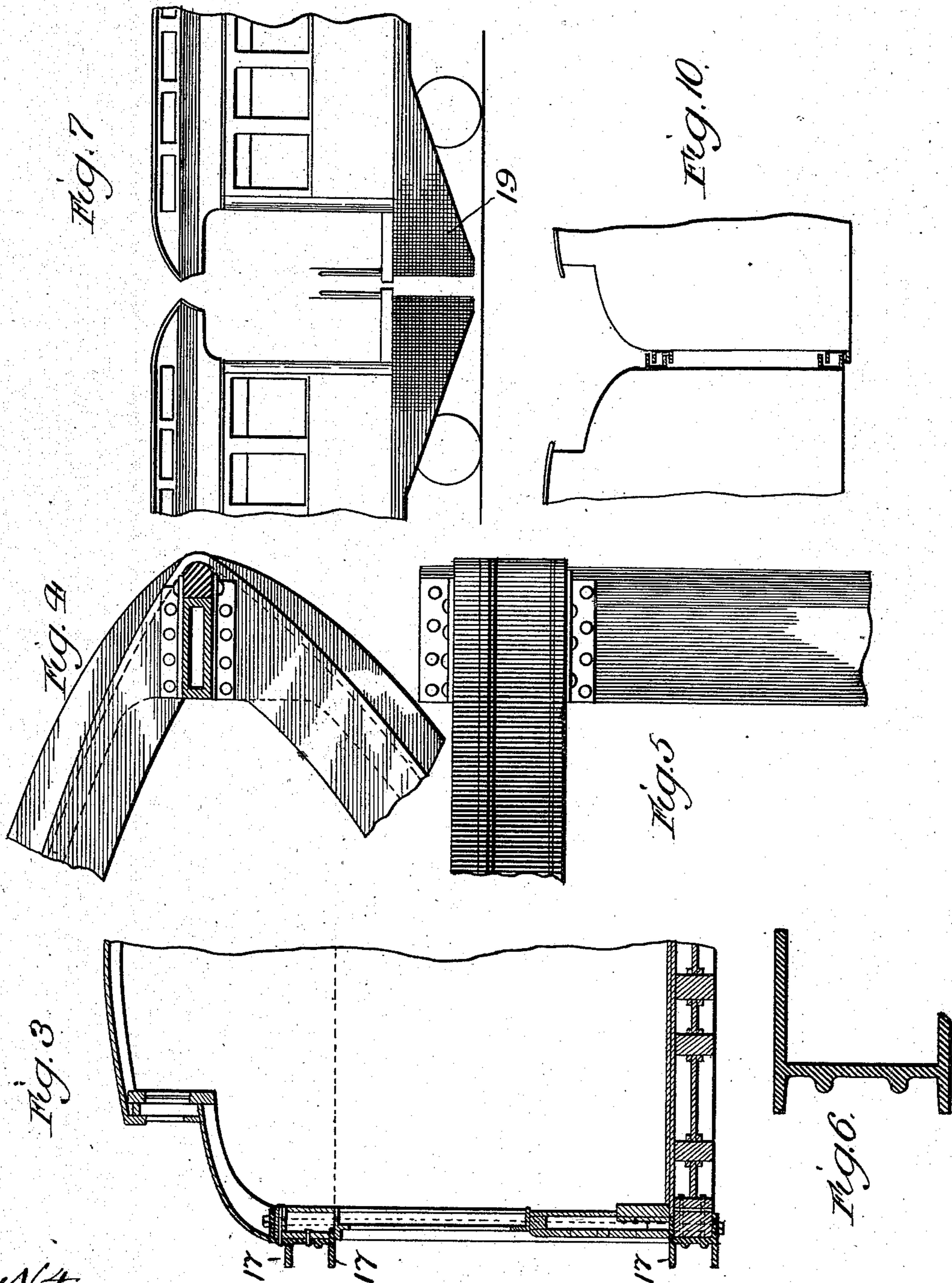
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3 Sheets—Sheet 2.



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3 Sheets—Sheet 3.

Fig. 8.

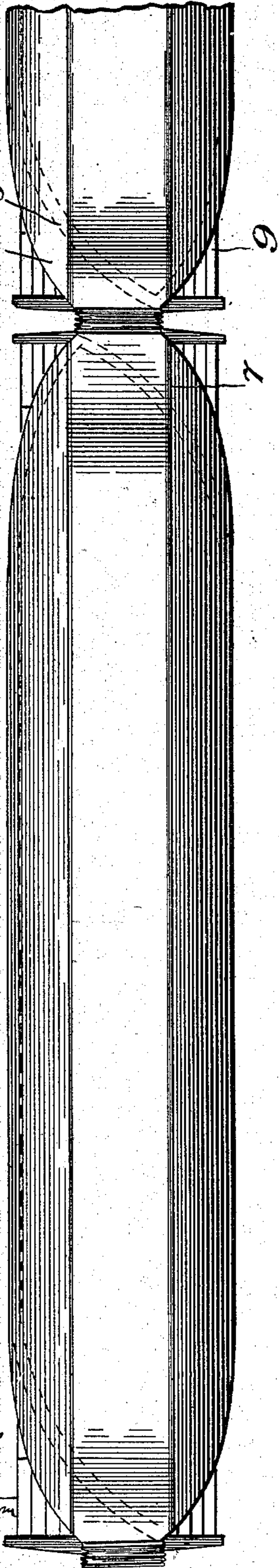
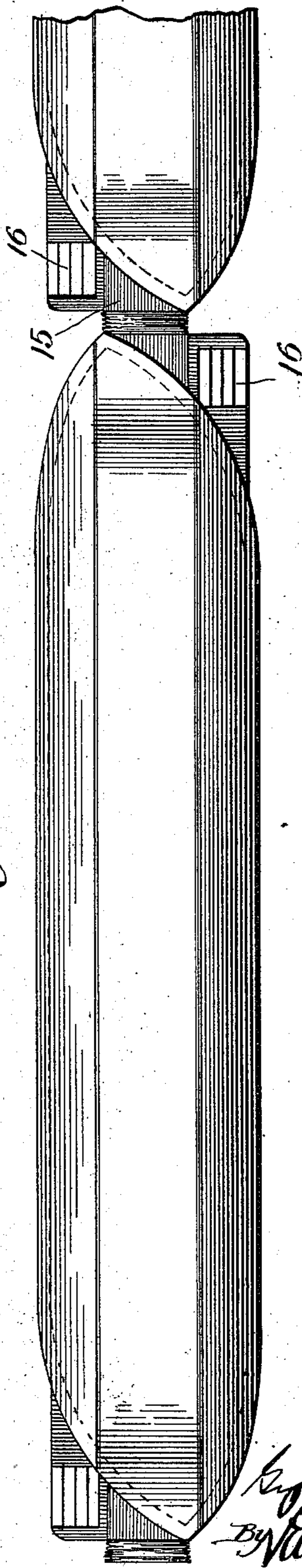


Fig. 9.



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# UNITED STATES PATENT OFFICE.

GEORGE E. DICKSON, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-FOURTH  
TO CHARLES H. BURRAS, OF CHICAGO, ILLINOIS.

## NON-TELESCOPING CAR.

SPECIFICATION forming part of Letters Patent No. 714,640, dated November 25, 1902.

Application filed April 10, 1901. Serial No. 55,176. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE E. DICKSON, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Non - Telescoping Cars, of which the following is a specification.

My invention relates to railway-cars, and particularly to passenger-coaches; and the object of my invention is to provide means that will prevent the telescoping of such coaches when brought together with great force, as in the case of a collision. When a railway collision occurs, the tendency is for the cars to continue their movement in a straight line, with the result that the cars either mount one upon the other or are telescoped.

The particular object of my invention is to improve the construction of railroad-cars to the end that when the same are brought forcibly together they will glance one upon the other and will be laterally displaced, so that while the cars will be derailed they will not be telescoped or crushed together, and the danger of fatalities among the occupants will be largely averted.

My invention consists, primarily, in a railway-car the ends of which have an angular or curved form, whereby two cars that are placed end to end will tend to overlap and glide by one another if the cars are forced suddenly together; and my invention further consists in a novel framing for cars or coaches, whereby the same are provided with extremely strong angular or deflecting ends capable of withstanding the impact of another car, and, further, my invention consists in particular constructions and in combinations of parts, all as hereinafter described, and particularly pointed out in the claims.

The invention will be more readily understood by reference to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a side elevation of the ends of two cars embodying my invention, the same being shown partly broken away to better illustrate the frame structure. Fig. 2 is a plan view of the cars, showing the frames as they appear when the car-roofs are re-

moved. Fig. 3 is an enlarged transverse section substantially on the line Y Y of Figs. 1 and 2. Fig. 4 is an enlarged plan detail of the point of a car-frame. Fig. 5 is a side view taken from Fig. 4. Fig. 6 is a detail of one of the frame or deflecting rails. Fig. 7 illustrates a modification of my invention. Fig. 8 is a plan view of a railway-car embodying my invention. Fig. 9 is a similar view illustrating a modified form of the cars. Fig. 10 is a detail view showing the operation of the deflecting-rails upon two cars.

As shown in the drawings, my invention pertains particularly to the sides and ends of the car. The car-sills 2, the floor 3, the roof 4, and the main body 5 of the car are of the ordinary construction. At the ends of the car, however, the usual form is altered and the ends of the car are made pointed. When two cars of such construction are placed end to end, the adjacent points thereof will be upon opposite sides of the longitudinal center of the cars, and if the cars are suddenly forced together, as in a collision, the pointed ends will strike together and will glance laterally and will not penetrate. The result will be that the cars will be thrown sidewise from the track and will lie side by side instead of being telescoped. The shock of the sudden lateral displacement of a car while severe will not be as dangerous to the lives of the occupants and the car will not be destroyed.

When my invention is applied to old coaches, the pointed frames 5 will be built into the ends of the coaches, the corners 6 of the coaches extending beyond the pointed frames. In this case when a collision occurs the corners of the coaches will be shorn off, but the cars will not be otherwise seriously damaged. In building new cars the external appearance of the car will possess the general appearance of the pointed frames, substantially as shown in Fig. 9, or in case it is desired to make the cars symmetrical false portions 7 will be built opposite the long curves or bevels 8 of the car end, as illustrated in Fig. 8.

The end frames of the cars may be of any desired construction; but I prefer to make the

same in two main portions, one upon the car-floor or in the plane of the car-sills and the other just below the car-roof. These frames are preferably made up of heavy curved rails or channels 10, suitably braced and trussed, and the upper and lower frames are connected by any desired number of uprights 11 in addition to the regular framework of the car. The points proper, 12, are connected by vertical posts 13, and the points of opposite cars overlap or are offset far enough so that these posts 13 occupy positions upon opposite sides of the gangway between the cars. In practice these posts 13 will be built into and form part of the vestibule structure. These posts prevent the entrance of one pointed frame structure into the opposite frame of the car, and I consider them essential to my invention. These posts and the points 12 of the frames preferably extend out to the ends of the car-platforms 14, but need not extend beyond the same and therefore will not interfere with the coupling of a coach of the ordinary construction. When the body of the car is made to conform to the shape of the offset ends, I prefer to connect the cars by narrow platforms and vestibules 15 and provide steps 16 on one side only of each car end, the steps of the same car being upon opposite sides thereof, as illustrated in Fig. 9. In case of a collision the platforms and the steps would be carried away—that is, they would be shorn off by the overlapping or offset ends of the car when the same are brought together.

In Fig. 8 I have illustrated a modified construction, wherein the vestibules at the ends of the car are wider, steps being provided upon each side of the car and the entrances being through the curved walls or ends of the vestibule portions of the car, one wall thereof being formed by the false work 7, which in case of a collision is adapted to be displaced to allow a glancing blow between the ends of adjacent cars. I prefer that the false work 7 and the steps beneath the same shall be applied to the car structure in such a way that they will be severed therefrom when the cars strike together.

In case of a collision and when the pointed overlapping or opposite ends of the cars are brought together there is some danger of one car lifting with respect to the other, in which case the curved rails might not be brought together and the cars might be seriously injured, with danger to the occupants. I prefer, therefore, to provide the curved frames or rails with outwardly-projecting flanges 17, the external appearance of said frames being that of channel-bars. Now when two cars abut and glance upon one another the flanges of the opposing channeled frames of the two cars will catch or mesh into one another, as illustrated in Fig. 10, and serving as guides for one another will hold the two coaches in proper vertical relation, so that one car may pass along the side of the other. In this manner the sides of the car are effectually pro-

tected from damage and all possibility of the crushing of one car into the other is avoided.

My invention is capable of application to two old coaches in somewhat simpler form, as illustrated in Fig. 7, wherein the offset deflecting ends 19 are shown as structures depending from the car platforms and ends. In case of a collision these deflecting-points will quite effectually prevent the telescoping of the coaches.

It is obvious that my invention is not confined to any particular frame structure for the cars and that it admits of various modifications and amplifications that will readily suggest themselves to one skilled in the art, and I therefore do not confine my invention to the specific constructions herein shown and described.

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

1. A railroad-car having oppositely-offset pointed ends having upright point-posts 13, substantially as and for the purpose specified.

2. A railroad-car having oppositely angled or beveled ends and sides and the upright point-posts therein, substantially as described.

3. A railroad-car having in its frame structure offset pointed frames or rails connected at the ends of the car by posts 13, substantially as and for the purpose specified.

4. A railroad-car including in its upper and lower structure metal frames pointed and joined at the ends and oppositely offset from the longitudinal center of the car, substantially as described.

5. A railroad-car including in its structure metal frames pointed at the ends and oppositely offset from the longitudinal center of the car, and the end posts 13 connecting the upper and lower frames, substantially as described.

6. A railroad-car provided with oppositely-offset pointed ends having point-posts and vestibules built into said ends, substantially as described.

7. A railroad-car provided with oppositely-offset pointed ends provided with upright posts 13 and vestibules built into said ends, and steps for entering said vestibules, substantially as described.

8. Two railroad-cars each provided with offset pointed ends defined by upper and lower metal frames, posts 13 connecting said upper and lower frames, and the posts 13 of the cars being sufficiently separated to form a passage between the cars, substantially as described.

9. Two railroad-cars each provided with offset pointed ends defined by upper and lower metal frames, posts 13 connecting said upper and lower frames, and the posts 13 of the cars being sufficiently separated to form a passage between the cars, and vestibules built upon the ends of said cars and including said posts 13, substantially as described.

10. A railroad-car having upper and lower

pointed frames provided with exterior channels, said upper and lower frames being connected by posts, substantially as described.

5 11. A railroad-car provided with offset ends and having outwardly-flanged frames, substantially as described.

12. A railroad-car having a frame pointed at its ends, the points thereof being offset from the longitudinal center of the car, and

the false work applied to the offset ends and adapted to be displaced when a heavy blow is struck thereon, substantially as described.

In testimony whereof I have hereunto set my hand this 25th day of March, 1901.

GEORGE E. DICKSON.

Witnesses:

HENRY ADES FOWLER,  
B. B. THORNE.