

No. 647,906.

Patented Apr. 17, 1900.

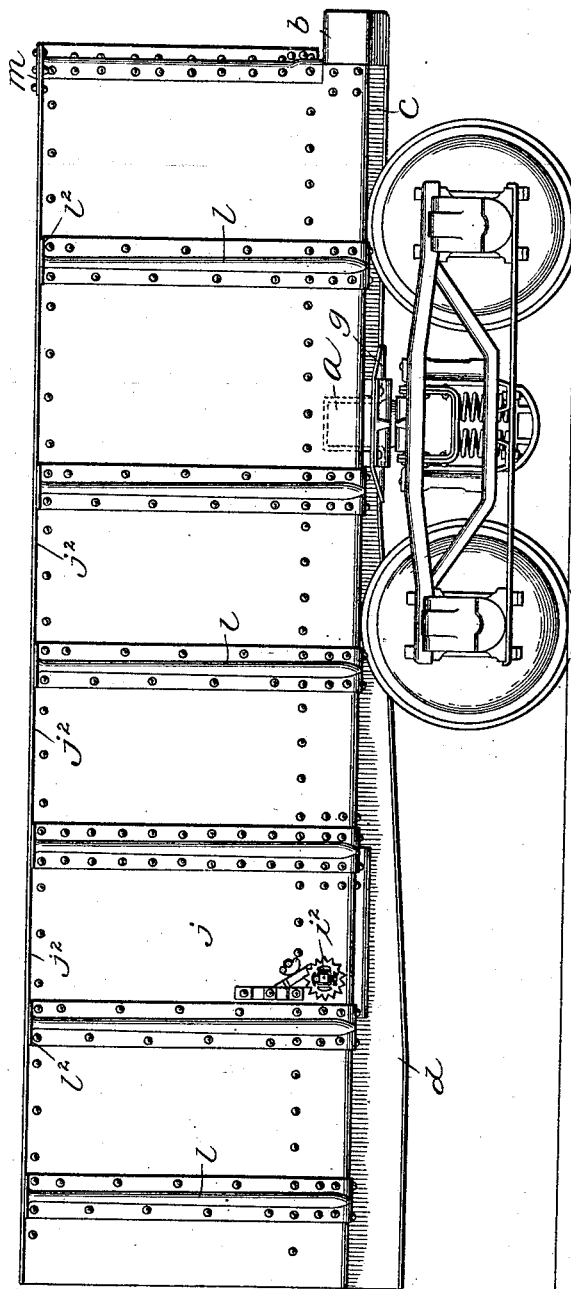
C. T. SCHOEN.  
GONDOLA OR OTHER CAR.

(Application filed Aug. 10, 1899.)

(No Model.)

6 Sheets—Sheet 1.

Fig. 1.



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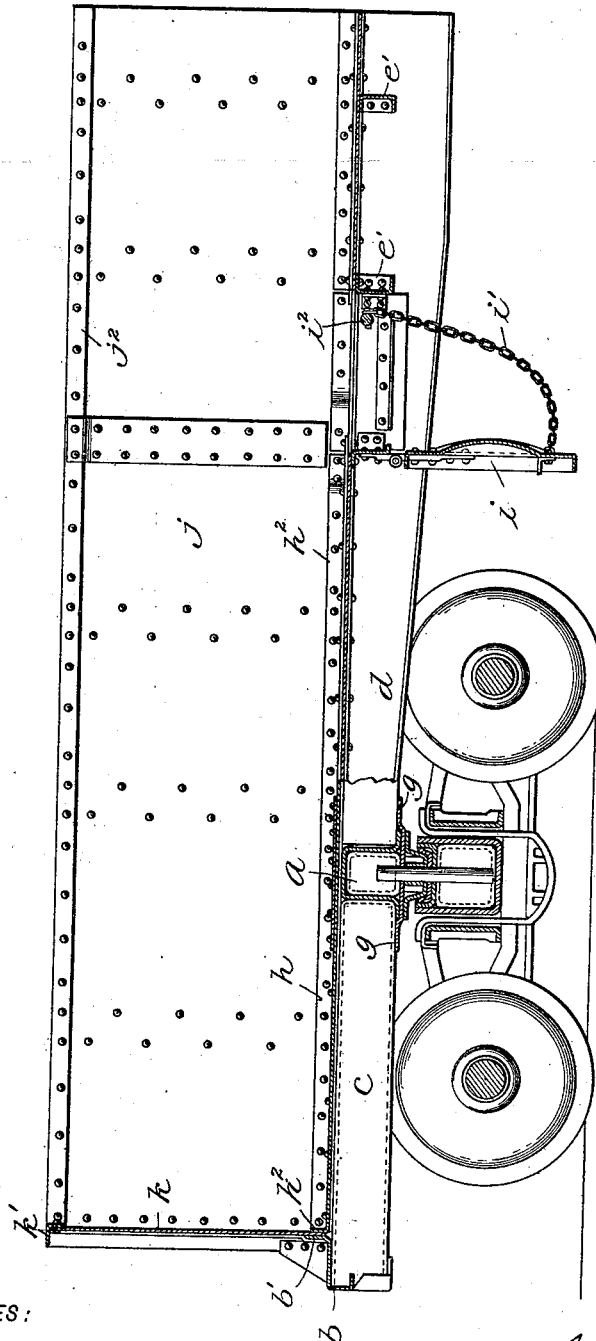
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Fig. 2.



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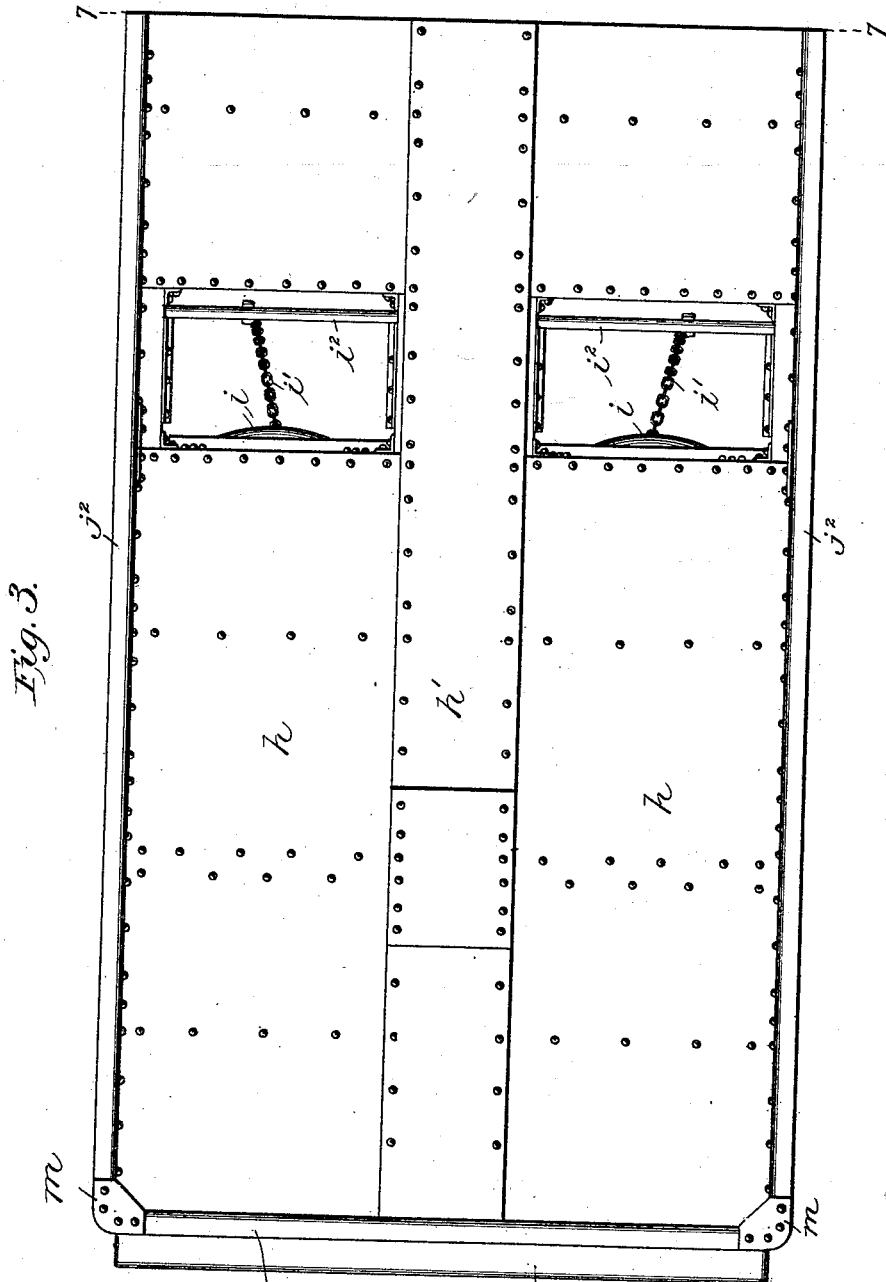
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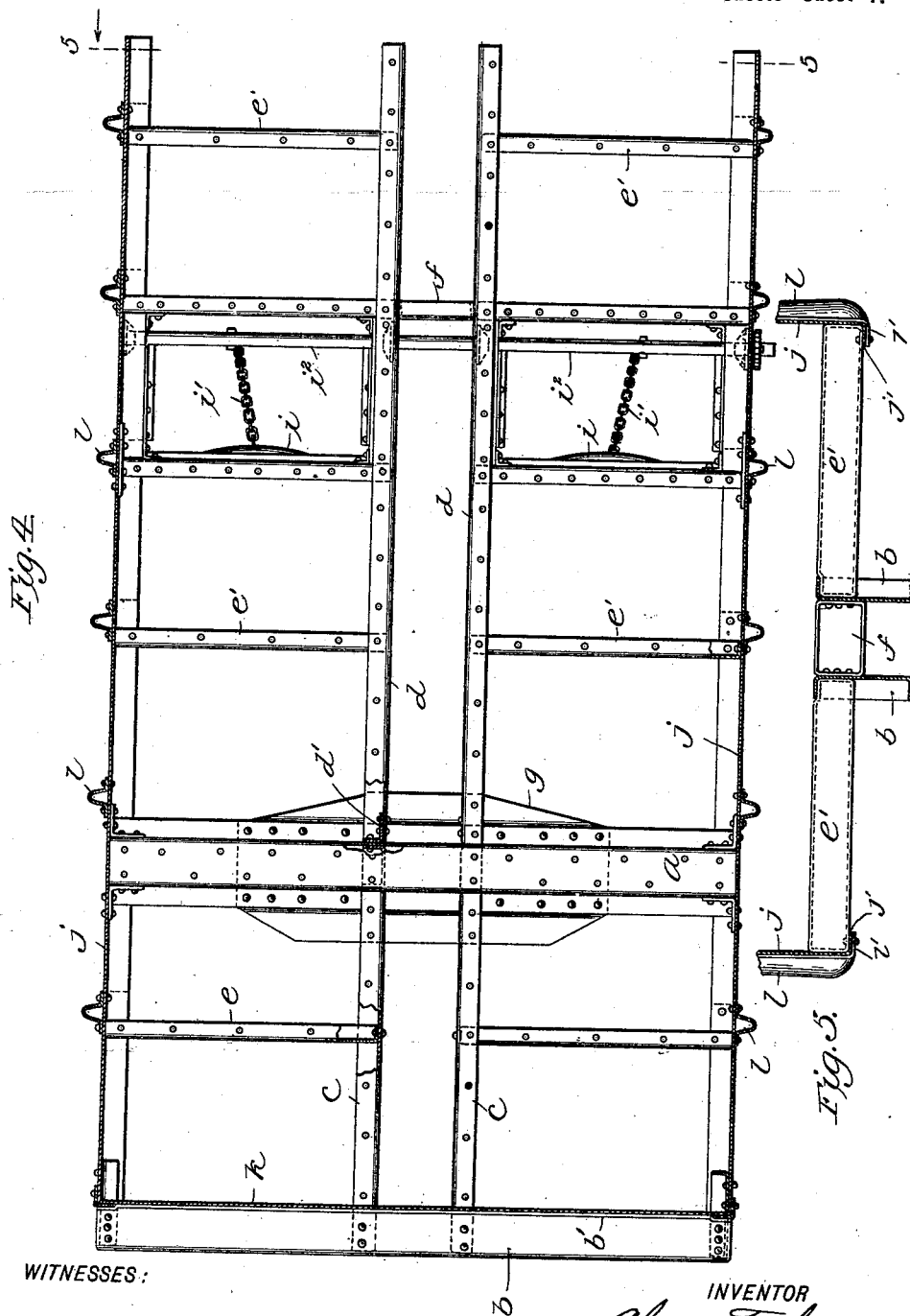
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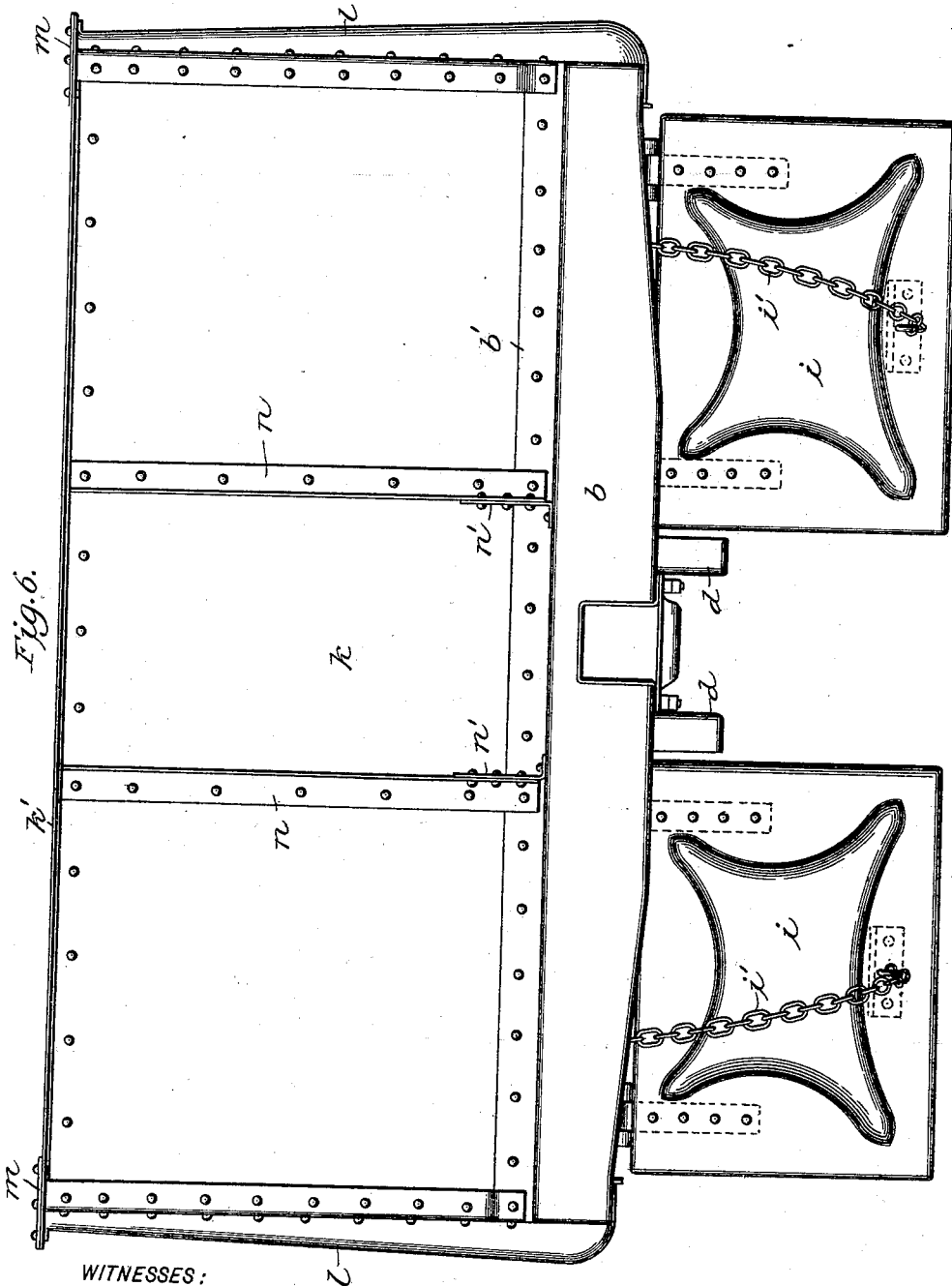
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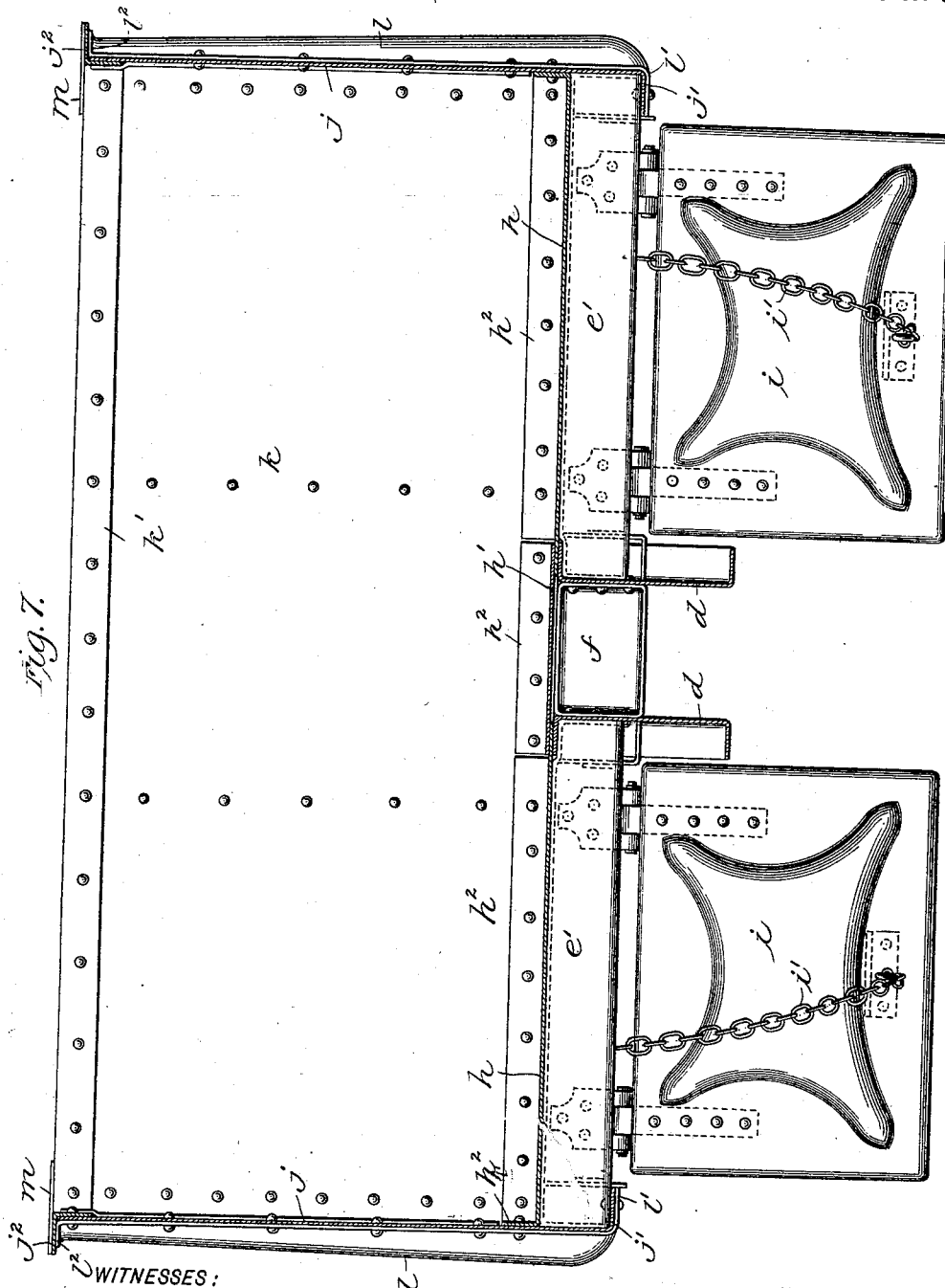
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(No Model.)

6 Sheets—Sheet 6.



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# UNITED STATES PATENT OFFICE.

CHARLES T. SCHOEN, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO  
THE PRESSED STEEL CAR COMPANY, OF PITTSBURG, PENNSYLVANIA.

## GONDOLA OR OTHER CAR.

SPECIFICATION forming part of Letters Patent No. 647,906, dated April 17, 1900.

Application filed August 10, 1899. Serial No. 726,820. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES T. SCHOEN, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a certain new and useful Improvement in Gondola or other Cars, of which the following is a full, clear, and exact description.

This invention relates to flat-bottom, gondola, and other and similar freight-cars, and more especially to the manufacture of the underframes and bodies of such cars from pressed steel. I have found that a considerable economy of metal, and consequently economy of weight and cost, can be effected by dispensing with the side sills heretofore used and by building up the underframe from pairs of parallel center sills and flying transoms projecting from said sills laterally, with the bolsters built in flush with the underframe and as a part of it and then securing the sides and ends of the car-body to the end sills, flying transoms, and bolsters, all as hereinafter described and particularly claimed.

In the accompanying drawings, illustrating my invention, in the several figures of which like parts are similarly designated, Figure 1 is a side elevation of one half of a car constructed in accordance with my invention. Fig. 2 is a longitudinal section of the other and complementary or duplicate half. Fig. 3 is a top plan view. Fig. 4 is a horizontal section with some parts broken out, the plane of the section being beneath the floor-plates. Fig. 5 is a cross-section in the plane of line 5 5, Fig. 4, looking in the direction of the arrow. Fig. 6 is an end elevation. Fig. 7 is a cross-section in the plane of line 7 7, Fig. 3, the last two views being enlarged relatively to the preceding views.

In order to avoid constant repetition, I wish to state at the outset that in the preferred construction I employ sheet or plate steel, pressed to shape, in the construction of all those parts of my invention which are susceptible of such construction.

The underframe comprises bolsters *a* and end sills *b*, each of which is of rigid unitary construction throughout and extends continuously across the entire width of the underframe. These bolsters and end sills are con-

nected by beams *c*, arranged centrally thereof and adapted to receive the draft-rigging. The bolsters are connected by sills or beams *d*, bellied substantially as indicated in Fig. 2 and riveted to the bolsters directly or through the intervention of angle-pieces *d'*. (See Fig. 4.) The beams *c* and sills *d* have secured to them the laterally-projecting flying braces or transoms *e e'*, respectively. One or more braces *f* may be placed between and secured to the sills *d* at suitable points. A reinforcing-plate *g* may be placed beneath each bolster and riveted to the bolster and, if desired, to the beams *c* and sills *d*.

The floor may be composed of any number of plates *h*, Fig. 3, extending from the beams *c* and the sills *d* laterally, and plates *h'*, extending between the said beams and sills longitudinally and centrally of the car.

If it be desired to provide doors in the bottom of the car to discharge the load, openings may be left in the floor of the car, as shown in Fig. 3, and any suitable doors *i* may be hinged beneath the car and be provided with suitable mechanism for opening and closing them, such as chains *i'* and a winding-shaft *i''*.

The sides *j* and ends *k* of the car are built up from the underframe, and the lower edges of the sides are flanged at *j'* and riveted to the bolsters and the flying transoms *e e'*, and stakes *l* are secured to the sides at intervals and their ends *l'* are also flanged horizontally and likewise riveted to the bolsters and flying transoms. The upper edges of the sides are riveted to angle-pieces *j''*, and the upper edges of the stakes are flanged outwardly beneath the horizontal portions of the angle-pieces *j''*.

The ends *k* of the car have their upper edges riveted to angle-pieces *k'*, and the corners of the sides and ends are reinforced by the plates *m*. The lower edges of the ends are riveted to flanges *b'*, rising from the end sills *b*. The floor-plates next to the sides and next to the ends are flanged vertically at *h''* and riveted to the sides and ends, or instead of or in addition to this construction angle-pieces may be placed along these edges and riveted in place. It will be understood that the flanges *b'*, ends *k*, and floor-flanges *h''* may be united by the same rivets.

The ends of the car, as shown in Fig. 6, may

be reinforced by stakes or angle-pieces  $n$ , which may be riveted to the ends and which may be connected by angle-pieces  $n'$  to the sills. By this construction I am enabled to  
 5 dispense with the side sills, and thus, as already indicated, effect a very considerable economy in the cost of the car and its weight and at the same time produce perfectly strong, rigid, and durable cars.

10 My invention is applicable to cars having wooden floors instead of metal floors, and in such case suitable wooden strips or sleepers may be applied to the beams and sills and transoms to receive the fastenings of such  
 15 wooden floors.

What I claim is—

1. An underframe for cars, comprising bolsters and end sills extending continuously across the width of the underframe, longitudinal beams connecting the said bolsters and  
 20 end sills and adapted to receive the draft-rigging, center sills connecting the bolsters, and flying transoms projecting from the beams and sills and secured thereto, substantially as described.

2. An underframe for cars, comprising bolsters and end sills extending continuously across the width of the underframe, longitudinal beams connecting the said bolsters and  
 30 end sills and adapted to receive the draft-rigging, center sills connecting the bolsters, and flying transoms projecting from the beams and sills and secured thereto, and reinforcement plates applied beneath the bolsters, substantially as described.

3. A metallic car, having an underframe constructed without side sills and comprising bolsters and end sills, longitudinal beams connecting the said bolsters and end sills and  
 40 adapted to receive the draft-rigging, center sills connecting the bolsters, and flying transoms projecting from the beams and sills and secured thereto, combined with sides supported upon the bolsters, end sills and transoms, substantially as described.

4. A metallic car, having an underframe constructed without side sills and comprising bolsters and end sills, longitudinal beams connecting the said bolsters and end sills and

adapted to receive the draft-rigging, center  
 50 sills connecting the bolsters, and flying transoms projecting from the beams and sills and secured thereto, combined with sides supported upon the bolsters, sills and flying transoms, the sides being extended below the said  
 55 flying transoms and beneath them and secured thereto, substantially as described.

5. A metallic car, comprising an underframe, without side sills, and composed of bolsters connected by parallel center sills, end  
 60 sills connected with the bolsters by longitudinal beams, flying transoms projecting from the said sills and beams, and a body secured to said transoms, bolsters and end sills, substantially as described.

6. A metallic car, having an underframe, without side sills, and comprising bolsters, end sills, longitudinal beams connecting the said bolsters and end sills, center sills connecting the bolsters, and flying transoms projecting from the beams and center sills, combined with floor-plates secured to said underframe and having side and end flanges, a  
 70 body having sides and ends which are riveted to such floor-flanges, and angle-pieces riveted to the upper edges of the sides and ends, substantially as described.

7. A metallic car, having an underframe, without side sills, and comprising bolsters, end sills, longitudinal beams connecting the  
 80 said bolsters and end sills, center sills connecting the bolsters, and flying transoms projecting from the beams and center sills, combined with floor-plates secured to said underframe and having side and end flanges, a  
 85 body having sides and ends which are riveted to such floor-plates, angle-pieces riveted to the upper edges of the sides and ends, and vertical flanges on the end sills which are riveted together with the car ends and the  
 90 end flanges of the floor-plates, substantially as described.

In testimony whereof I have hereunto set my hand this 21st day of July, A. D. 1899.

CHARLES T. SCHOEN.

Witnesses:

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 H. E. SWARTZ.