No. 648,633. Patented May 1, 1900.

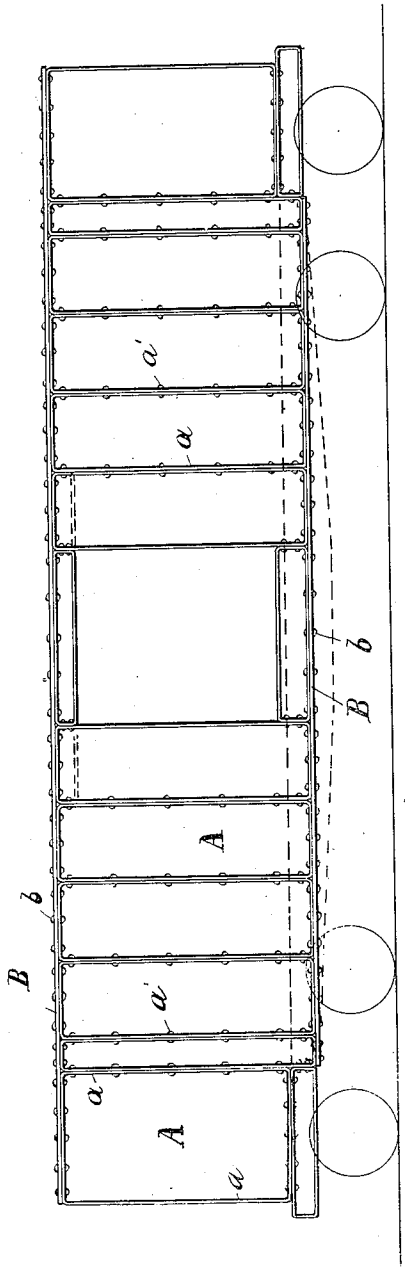
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CONSTRUCTION OF CARS.

(Application filed June 21, 1898.)

(No Model.) 3 Sheets—Sheet 1.

Fig. 1.



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(No Model.) 3 Sheets—Sheet 2.

Fig. 2.

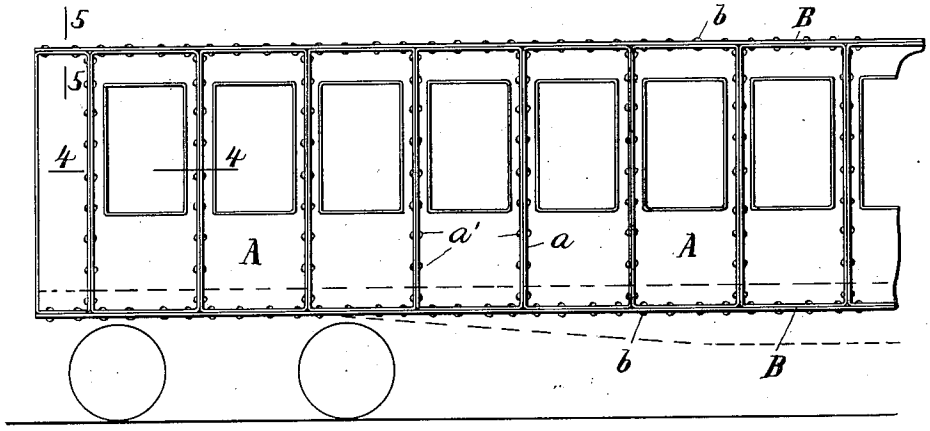
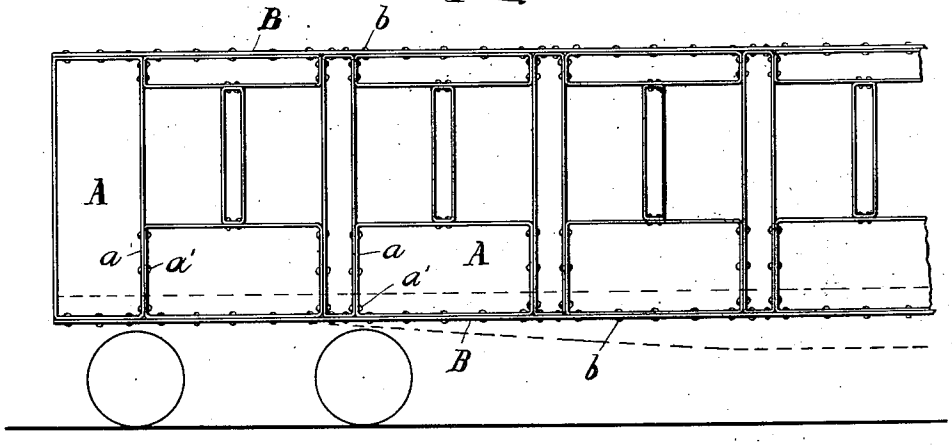


Fig. 3.



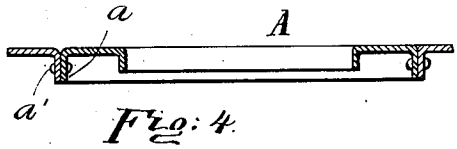


Fig. 4.

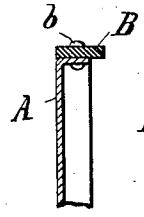


Fig. 5.

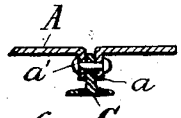


Fig. 6.

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(Application filed June 21, 1898.)

(No Model.) 3 Sheets—Sheet 3.

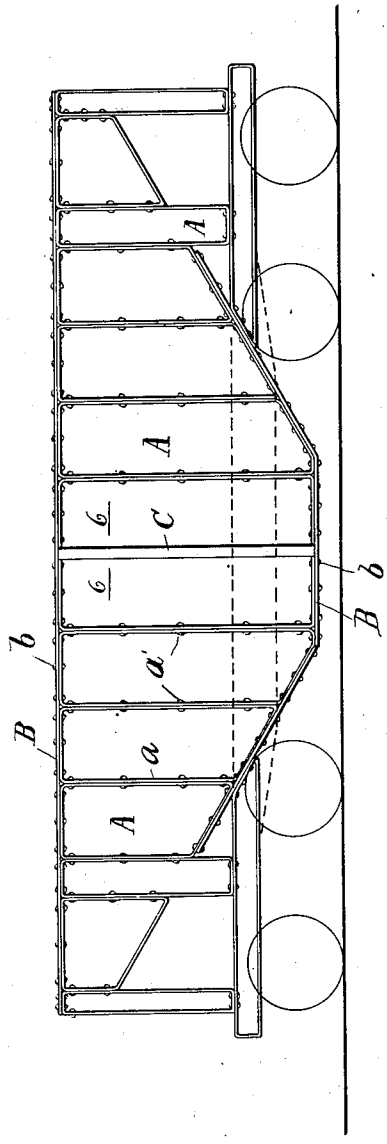


Fig. 7.

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UNITED STATES PATENT OFFICE.

FREDERICK H. RAPLEY, OF NEW YORK, N. Y., ASSIGNOR TO THE FOX PRESSED STEEL EQUIPMENT COMPANY, OF SAME PLACE.

CONSTRUCTION OF CARS.

SPECIFICATION forming part of Letters Patent No. 648,633, dated May 1, 1900.

Application filed June 21, 1898. Serial No. 684,049. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK H. RAPLEY, a resident of the city of New York, in the county and State of New York, have invented certain new and useful Improvements in the Construction of Cars, of which the following is a specification.

My invention relates to the construction of freight and passenger cars, and more particularly to the construction of the sides thereof.

I will describe a construction for the sides of cars embodying my invention and then point out the novel features in the claims.

In the drawings, Figure 1 is a view in elevation of a side of a freight-car. Fig. 2 is a view in elevation of a portion of a side of a passenger-car. Fig. 3 is a view in elevation of a portion of a side of a passenger-car and showing a slightly-different arrangement. Fig. 4 is a horizontal transverse section taken on the line 4 4 of Fig. 2. Fig. 5 is a detail vertical transverse section taken on the line 5 5 of Fig. 2. Fig. 6 is a detail horizontal section taken on the line 6 6 of Fig. 7. Fig. 7 is a view in elevation of one side of a coal-car.

Similar letters of reference refer to corresponding parts.

A represents a panel or section, of metal, which is turned at all its edges to form a flange *a*. These panels or sections may be of different dimensions and of different shapes, according to the position they occupy in the formation of the side of a car. They are, however, uniform as far as possible for convenience in manufacturing. The several plates of the side of the car are united through their flanges by means of rivets *a'*, and at the top and bottom of the side of the car the plates are supported by means of reinforcing-strips B, which are united to the flanges by rivets *b*. With this arrangement of the panels or sections a girder construction is obtained for the sides of a car, the vertical flanges acting as stiffeners for the web which comprises the panels. Where it is desired to have additional strength in the sides—as, for instance, in freight and coal cars—angle-iron—such, for instance, as a T C—may be inserted between the vertical flanges of adjacent plates. (See Figs. 6 and 7.)

In forming a side for a car the plates are first pressed to produce the flanges, and they are then riveted along their contacting flanges, after which the reinforcing-pieces are riveted to the sections at the top and bottom of the side. The whole side is then placed in position on the bolsters of the car, which are carried by the truck. This construction avoids the necessity of using the side sills ordinarily employed in building a car, as the side itself takes the place of the side sill and supports the load. The middle sill, (shown in dotted lines in all the figures,) however, is retained.

In Fig. 1, which represents the side of a freight-car, the panels adjacent the door-opening are braced at their upper and lower ends by the narrow plates B.

In Fig. 2, which represents one form of a construction of a passenger-car, the panels or sections are cut to form window-openings, and the edges around the openings are flanged, as shown in Fig. 4.

What I claim as my invention is—

1. A combined side and side sill for cars, built up of panels or sections united at their contiguous edges, and having a reinforcing-strip beneath and united to the panels along the bottom of said car side, which strip is arranged to be within the vertical plane of the car side, so that the side sill may be dispensed with.

2. A combined side and side sill for cars, built up of panels or sections united at their contiguous edges, and having a reinforcing-strip beneath and united to the panels along the bottom of said car side, which strip is arranged to be within the vertical plane of the car side so that the side sill may be dispensed with; and a second reinforcing-strip at the top, and united to the panels of the car side.

3. A combined side and side sill for cars, built up of panels or sections united at their contiguous edges through flanges formed on the said panels, and a reinforcing-strip beneath and united to the said panels along the bottom of said car side through flanges on the said panels, whereby the usual side sill may be dispensed with.

4. A combined side and side sill for cars, comprising panels or sections having flanges at the edges thereof, and riveted together

through said flanges, at their joining edges to form the car side, and a strip without said panels, and riveted to the flanges thereof at the top and bottom of the car side for reinforcing the same, substantially as described.

5. A side for a car comprising vertical panels or sections having flanges at the edges thereof through which the panels are united at their contiguous edges, and an angle-iron placed vertically between said flanges, for stiffening the car side, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FREDERICK H. RAPLEY.

Witnesses:

ANTHONY GREF,

GEO. E. CRUSE.