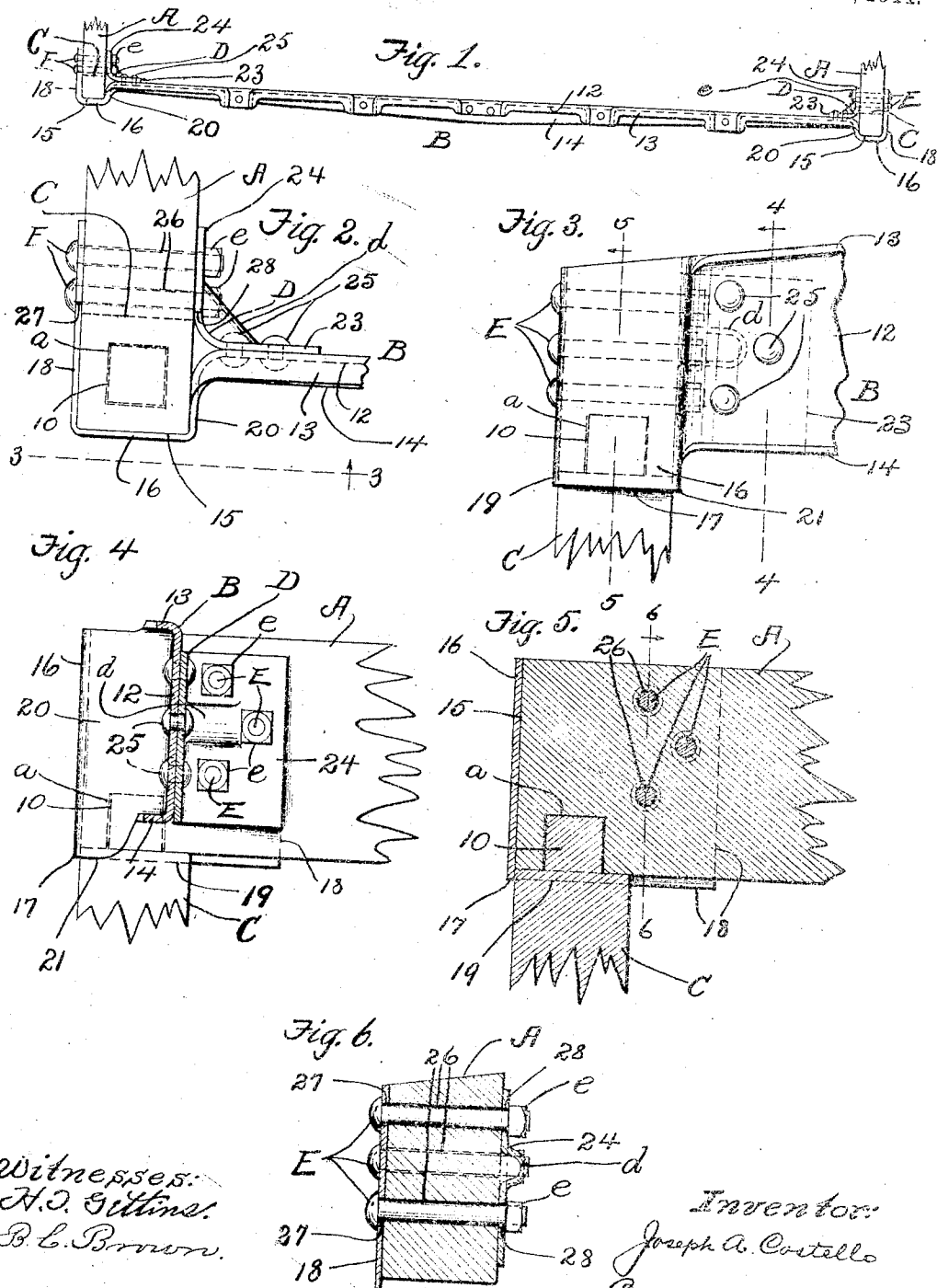


983,688.

Patented Feb. 7, 1911.



Witnesses:  
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 By *[Signature]*  
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# UNITED STATES PATENT OFFICE.

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## END CARLINE FOR CAR-ROOFS.

983,688.

Specification of Letters Patent.

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*To all whom it may concern:*

Be it known that I, JOSEPH A. COSTELLO, a citizen of the United States of America, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in End Carlines for Car-Roofs; and I hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

This invention relates to improvements in end-carlines for car-roofs.

The primary object of this invention is to provide an end-carline especially applicable for use in the construction of the frame of the roof of a box-car and not only embodying the features of strength, lightness and economy of construction but comprising members whereby the side plates of the said frame and the end-posts of the frame-work of the car are so efficiently connected with the said carline that the roof-frame is rendered strong enough to withstand any strains to which it may be subjected by the shifting of the freight or load carried by and within the car, and the possibility of a disorganization of the said roof-frame from any cause is reduced to a minimum.

In the accompanying drawings, Figure 1 is a top plan of an end-carline embodying my invention, and shows also the adjacent portions of the side plates of a car-roof-frame attached to the carline. Fig. 2 is a top plan of one of the end-portions of the said end-carline and the adjacent portion of the connected side plate, and shows in dotted lines the adjacent end-post of the car-frame. Fig. 3 is an elevation taken along the line 3—3, Fig. 2, looking in the direction indicated by the arrow. Fig. 4 is a vertical section on line 4—4, Fig. 3, looking outwardly. Fig. 5 is a vertical section on line 5—5, Fig. 3, looking outwardly. Fig. 6 is a vertical section on line 6—6, Fig. 5, looking in the direction indicated by the arrow. Figs. 2, 3, 4, 5 and 6 are drawn on the same scale, but on a larger scale than Fig. 1.

Referring to the drawings, A and A indicate the two laterally spaced substantially horizontally arranged and substantially parallel wooden side plates of the frame of a car-roof, and B represents an end-carline embodying my invention. The end-carline B extends substantially horizontally between

the end-portions of and at a right angle to the side plates A at one end of the said frame and is attached as will hereinafter appear to the side plates. Under each side plate A at the said end of the said frame is arranged an end-post C of the car-frame, and this post is provided at its upper end and centrally with an upwardly projecting tenon 10 which is formed centrally of the said end of the post and engages a mortise 65 a formed in the under side of the adjacent end-portion of the said side plate in the usual manner, and the said side plate rests therefore on the upper end of the said post over and around the said tenon.

My improved end-carline comprises in the main a metal plate which is preferably pressed or shaped in a die or mold, and the body-portion or body 12 of the said carline is made of channel shape in cross section, being provided with two vertically spaced laterally and outwardly projecting flanges 13 and 14 arranged at the top and bottom respectively of the carline and extending longitudinally of the carline. The body 12 of the carline is arranged a suitable distance inwardly from the adjacent end faces 15 of the connected and adjacent portions of the side plates A.

The carline B has end-portions which are secured to the side-plates A and provided, as will hereinafter appear, with end bearings and side bearings for the side plate.

Each end portion of the carline B is integral, as shown, with the body of the carline and has a central member 16 which is offset laterally of and outwardly from the outer side of the body 12 of the carline, said member 16 overlapping or engaging and forming an abutment or end bearing for the adjacent end face 15 of the side plate A attached to the said end-portion of the carline as will hereinafter appear. The said member 16 extends across the said face 15 from the inner side to the outer side of the said side plate and at its lower end preferably extends downwardly below the body of the carline to and somewhat overlaps the adjacent side of the adjacent end-post C, as at 17. The said end-portion of the carline also comprises two substantially parallel end members 18 and 20 which are arranged substantially at a right angle to the body of the carline and overlap or engage and form an abutment or side bearing for the outer side

and inner side respectively of the side plate attached to the said end-portion of the carline. The inner end member 20 of the said end-portion of the carline extends laterally of and outwardly from the outer side of the body 12 of the carline and connects the central member 16 of the said end-portion with the said body. The said inner end member 20 of the said end-portion of the carline preferably extends downwardly below the body of the carline to and somewhat overlaps the adjacent side of the adjacent end-post C, as at 21. The outer end member 18 of the said end-portion of the carline extends inwardly along the outer side or longitudinally of the side plate overlapped by the said member 18 to a point a suitable distance inwardly beyond the inner side of the body 12 of the carline. The said member 18 preferably extends downwardly below the body of the carline to and somewhat overlaps the adjacent side of the adjacent end-post C, as at 19.

The members 16, 18 and 20 of each end-portion of the carline are preferably formed integral as shown with the body of the carline, and hence it will be observed that my improved end carline has end portions which are integral with the said body and provided with integral end bearings and integral side bearings for the side plates.

The carline B is provided, at each end thereof and at its inner side, with an angle-plate D which has its two wings 23 and 24 arranged at a substantially right angle to each other, having its wing 23 abutting against the inner side of the body 12 of the carline, and shown riveted, as at 25, to the said body. The said angle-plate D has its other wing 24 overlapping and abutting against the inner side of the adjacent side plate A opposite the outer end member 18 of the adjacent end-portion of the carline, and thereby bracing the said side plate at the said side of the said side plate and opposite the said outer end member of the said end-portion of the carline, and the said wing 24 of the said angle-plate, the said outer end member 18 of the said end-portion of the carline and the side plate interposed between the said members 18 and 24 are clamped or secured together by suitably applied bolts E and nuts e. Preferably the said side plate is provided between the said members 18 and 24 with several bolt-holes 26 which are arranged substantially horizontally and extend laterally through the said side plate and in line endwise or registry with bolt-holes 27 and 28 formed in and extending laterally through the said members 18 and 24 respectively. Each bolt E has its head abutting against the outer side of the said member 18 and has its shank extending through the registering holes 26, 27 and 28, and the said member 24 is interposed between the inner side of the said side plate

and the said nut e which is screwed onto the said shank tightly against the side plate so as to cause the latter and the said members 24 and 18 to be clamped together by and between the nut and the bolt-head.

The angle-plate D is preferably provided with a reinforcing rib or web d extending between the wings 23 and 24 of the said plate.

By the construction hereinbefore described, it will be observed that the inner end members 20 of the end-portions of the carline as well as the angle-plates D brace the side plates at the inner sides of the side plates, that the end-portions of the carline are not only secured to the side plates so that the latter are tied together by the carline but shaped to form abutments or bearings for the adjacent end faces and both outer and inner sides of the side plates and therefore most efficiently hold the side plates to the carline, and that the downward extension of the members 16, 18 and 20 of the end-portions of the carline to and over the adjacent end-posts C effectively braces and materially reinforces the said posts at the upper ends of the posts and prevents any force or strain tending to displace the said posts outwardly from coming directly upon the tenons 10 of the posts.

It will be observed that a not unimportant feature of my improved end-carline consists in the provision of the carline with the bearings or abutments 16 for the adjacent end faces of the side plates A. This construction prevents displacement of the end-carlines of the frame of a car-roof laterally and inwardly independent of the side plates, or displacement of the side plates longitudinally or endwise independent of the carlines, so that shearing of the bolts E employed in securing the side plates and carlines together is rendered impossible.

What I claim is:—

1. An end-carline for connecting together the two laterally spaced side plates of the frame of a car-roof at one end of the car-roof, which carline has a body adapted to extend between the said side plates, said carline having end-portions provided each with a member arranged to overlap and form an abutment for the adjacent end face of the adjacent side plate upon the application of the carline to the side plates.

2. An end-carline for the frame of a car-roof, which carline has a body adapted to extend between the two laterally spaced side plates of the said frame at one end of the frame, said carline having end-portions, each end-portion being provided with an end bearing for a side plate and a side bearing for the outer side of the said side plate, said side bearing and said end-bearing being arranged substantially at a right angle to each other, the side bearing extending from

the end bearing inwardly beyond the inner side of the body of the carline, and the said body being provided opposite the said side bearing with a member forming a stile bearing for the inner side of the said side plate.

3. A metal end-carline for the frame of a car-roof, which carline has a body adapted to extend between the two laterally spaced side plates of the said frame at one end of the frame, said carline having end portions, each end portion comprising a member integral with the body and offset laterally of and outwardly from the outer side of the body and arranged to overlap and form an abutment for the adjacent end face of the adjacent side plate upon the application of the carline to the side plates.

4. An end-carline for the frame of a car-roof, which carline has a body arranged to extend between the two laterally spaced side plates of the said frame at one end of the frame, said carline having end portions, each end portion comprising a central member and two end members which are arranged substantially at a right angle to the central member, said central member being arranged at and spaced from the outer side of the aforesaid body and in position to overlap and form an abutment for the outer end face of a side plate at the said end of the frame, and said end members being arranged to overlap and form a bearing for the outer side and inner side respectively of the said side plate, the inner end member of the said end portion extending laterally of and outwardly from the outer side of the body of the carline.

5. The combination, with the two laterally spaced side plates of the frame of a car-roof, of an end-carline connecting together and bracing the side plates, which carline has its body extending between the side plates at one end of the frame, said carline extending to and over and forming abutments which face longitudinally of the aforesaid frame and overlap the adjacent end faces of the side plates.

6. The combination, with the two laterally spaced side plates of the frame of a car-roof, of an end-carline connecting together and bracing the side plates, which carline has its body extending between the side plates at one end of the frame and arranged a suitable distance inwardly from the adjacent end faces of the side plates at the said end of the frame, said carline having each end portion thereof secured to the side plate which is adjacent the said end portion and extending from the body at the outer side of the body along the inner side of the adjacent

side plate to the adjacent end face of the said side plate and thence across the said end face to the outer side of the said side plate and thence inwardly along the said outer side of the said side plate.

7. In a frame for car-roof construction, the combination, with two laterally spaced side plates, of a carline connecting together and bracing the side plates and having its body extending between the side plates at one end of the frame and arranged a suitable distance inwardly from the end faces of the side plates at the said end of the frame, said carline having end-portions secured to the side plates, each end-portion comprising a central member overlapping the end face of a side plate at the said end of the frame and two end members arranged to overlap the outer side and inner side respectively of the said side plate, the inner end member of the said end-portion extending laterally of and outwardly from the outer side of the body of the carline and the outer end member of the said end-portion extending from the said end face inwardly beyond the inner side of the said body and the body of the carline being provided at its inner side and opposite the said outer end member with a member which braces the said side plate at the inner side of the side plate, and means whereby the said side plate, the said bracing member and the said outer end member are secured together.

8. The combination, with the two laterally spaced side plates of the frame of a car-roof, of an end-carline connecting together and bracing the side plates and extending between the side plates at one end of the frame, which carline extends across the adjacent end faces of the side plates and over the outer sides of the side plates, said carline also extending below the side plates at the said sides and end faces of the side plates.

9. The combination, with the two laterally spaced side plates of the frame of a car-roof, of an end-carline connecting together and bracing the side plates at one end of the frame, which carline extends across the said adjacent end faces of the side plates and over both outer and inner sides of the side plates and below the side plates at the said sides and end faces of the side plates.

In testimony whereof, I sign the foregoing specification, in the presence of two witnesses.

JOSEPH A. COSTELLO.

Witnesses:

C. H. DORR,  
B. C. BROWN.