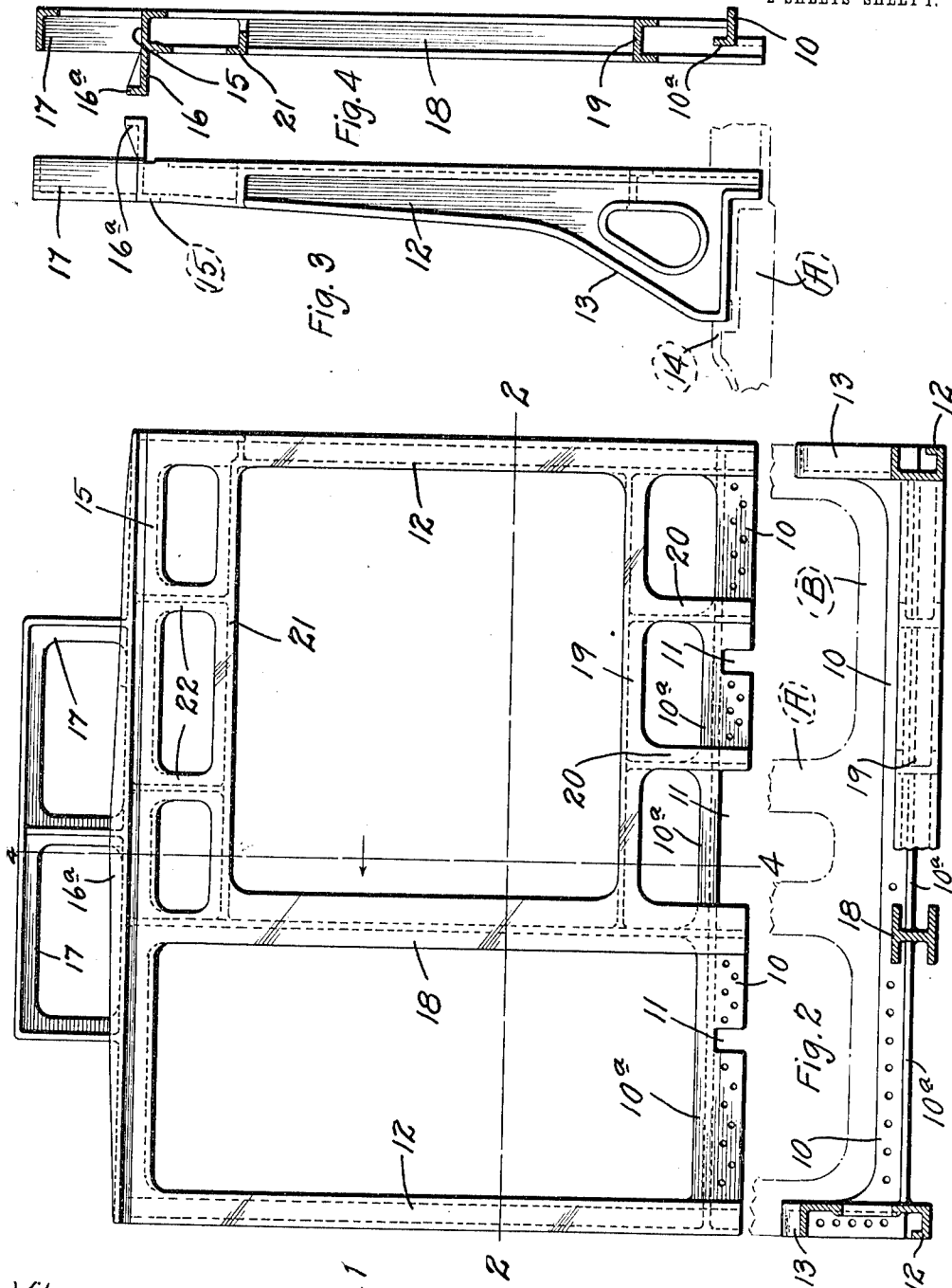


H. M. PFLAGER.
CAR END FRAME.
APPLICATION FILED NOV. 8, 1912.

1,073,706.

Patented Sept. 23, 1913.

2 SHEETS—SHEET 1.



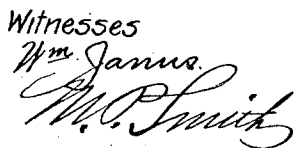
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Fig. 1

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2 SHEETS-SHEET 2.



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UNITED STATES PATENT OFFICE.

HARRY M. PFLAGER, OF ST. LOUIS, MISSOURI, ASSIGNOR TO DOUBLE BODY BOLSTER COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF NEW JERSEY.

CAR END FRAME.

1,073,706.

Specification of Letters Patent.

Patented Sept. 23, 1913.

Application filed November 8, 1912. Serial No. 730,219.

To all whom it may concern:

Be it known that I, HARRY M. PFLAGER, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Car End Frames, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an elevational view of a car end frame of my improved construction. Fig. 2 is a horizontal section taken approximately on the line 2—2 of Fig. 1 and showing a portion of the car underframe to which the end frame is attached. Fig. 3 is a side elevational view of the end frame. Fig. 4 is a vertical section taken on the line 4—4 of Fig. 1. Fig. 5 is a top plan view of the end frame. Fig. 6 is a front elevational view of a modified form of the end frame.

This invention relates generally to railway car construction, and more particularly to the one-piece, cast metal end frames for cars of the type disclosed in Patent No. 917,716, issued April 6, 1909, and No. 929,705, issued to me August 3, 1909.

One of the most important features in the construction of the present types of railway cars, and particularly those utilized for the transportation of passengers is the reinforcing of the ends of the cars so as to provide an exceptionally strong, rigid construction which will effectually resist crushing stresses delivered to the ends of the cars, consequently overcoming the tendency of the cars to telescope in case of collisions, and affording the greatest possible degree of safety to the occupants of the cars.

My improvement contemplates a comparatively light-weight, strong and durable one-piece, cast metal structure, formed, braced and connected to the underframe and superstructure so as to combine therewith in resisting end shocks and crushing stresses imparted to the end of the car, thereby providing a construction which is anti-telescopic in effect.

The principal objects of my present invention are, to generally improve the construction of the one-piece end frame of the type disclosed in the patents hereinbefore

referred to, and to construct an end frame having a door opening arranged to one side of the center and a comparatively wide and deep window opening, which arrangement is particularly desirable for use on passenger cars having observation ends.

A further object of my invention is to construct a one-piece end frame having a continuous top rail, and to arrange on said rail a continuous upwardly projecting flange, the ends of which taper gradually inward toward the sides of the frame, and which flange is adapted to form a strong, rigid support for the hood frame and parts of the hood structure.

To the above purpose my invention consists in certain novel features of construction and arrangement of parts hereinafter more fully described and claimed.

Referring to the accompanying drawings, A designates the car underframe and B the end sill, which latter, in the present instance, is shown as an integral part of the underframe.

My improved end frame as shown includes a horizontally disposed base member that is substantially of inverted L-shape in cross section, which base member is applied to the end sill B with its vertical leg positioned against the outer front face of said end sill, and with its horizontal leg or flange positioned on and fixed to said end sill preferably by means of rivets. The vertical leg or flange of this base member is notched or cut away adjacent to its center, as designated by 11 in order to accommodate parts of the car platform, and to compensate for the metal removed in thus notching said base member, horizontally disposed strengthening flanges 10^a are formed integral with the base member above the notches or cut away portions.

Formed integral with the ends of the base 10 are flanged upright members 12 of any desired cross-sectional shape, and these upright members perform the function of corner posts for the car body. Formed integral with the lower ends of these uprights are rearwardly projecting brackets 13, the rear ends of which are adapted to engage against shoulders 14 formed on the side sills of the underframe. This construction is effective in maintaining the end frame against inward horizontal movement with respect to

the underframe, and it also relieves the rivets utilized in attaching the base 10 to the end sill of shearing strains.

Formed integral with the upper ends of the uprights 12 is a horizontally disposed flanged top rail 15 of any desired cross-sectional shape, and formed integral with the front side of this rail and projecting outwardly therefrom is a horizontally disposed flange 16, the end portions of which gradually narrow in width toward the uprights 12. The central portion of this flange is reinforced by means of an integral, vertically disposed flange 16^a. This flange 16^a forms a support and a means of attachment for the hood frame and hood structure.

Formed integral with the central portion of the top rail 15 is a vertically disposed skeleton frame 17 which is adapted to support the deck sills, deck plates and parts of the roof structure.

Located to one side of the center of the frame and extending from the base 10 to the top rail 15 is a flanged upright 18 which performs the functions of a door post and side rail of a window frame. Formed integral with this upright 18 and one of the uprights 12 is a horizontally disposed flanged rail 19, the same being located a short distance above the corresponding portion of the base 10 and this rail constitutes the window sill. Short, vertically disposed members 20 connect this rail 19 with the base 10.

Formed integral with the upright 18 and one of the uprights 12 above the sill 19 and a short distance below the corresponding portion of the top rail 15 is a horizontally disposed rail 21 which constitutes the lintel of the window frame. Short, vertically disposed posts 22 connect the central portion of this rail with the corresponding portion of the rail 15.

The end frame so constructed is provided with a door opening at one side and with a window opening of extra width and depth on the other side, which arrangement meets the requirements of the construction used on cars having observation ends.

In the modified construction illustrated in Fig. 6 the upper ends of the posts 12 are notched, as designated by 23, to form seats or shoulders for the side plates of the car body frame, and formed integral with the central portion of the top rail 15 is a pair of upwardly projecting flanges or brackets 24 which constitute supports and means for attachment of the deck sills. In this construction the upper end of the door opening is arched, as designated by 25, thus accom-

modating a door having a rounded or semi-circular upper end.

My improved end frame, being formed in a single piece, can be easily handled and can be constructed with comparatively little cost inasmuch as the time, labor and consequent expense ordinarily involved in the construction and assembling of a built-up end frame is done away with. The end frame, being cast in a single piece, is very strong and rigid, can be readily attached to the underframe and superstructure, and when properly combined therewith forms an exceptionally strong, anti-telescoping structure which affords the highest degree of safety to the occupants of the car in case of collisions.

It will be readily understood that minor changes in the size, form and construction of the various parts of my improved end frame can be made and substituted for those herein shown and described without departing from the spirit of my invention, the scope of which is set forth in the appended claims.

I claim:

1. The hereindescribed car end frame comprising a skeleton one-piece structure composed of a base, a pair of uprights, a top rail, a post extending from the base to the top rail between the pair of upright members, which post divides the space within the frame into a door opening and a window opening, and rails between said post and one of the uprights, which rails constitute a lintel and a window sill.

2. The hereindescribed end frame comprising a base, a pair of corner posts, the lower portions of which are extended rearwardly to form brace brackets which engage the car underframe when the end frame is applied thereto, a top rail, a continuous flange thereon for the attachment of the hood frame and hood sheet, a post extending from the base to the top rail between the corner posts, a rail extending between the intermediate post and one of the side posts, which rail constitutes a lintel and a rail between the intermediate post and one of the corner posts, which last mentioned rail constitutes a window sill, all of which parts are formed integral.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this 22nd day of October, 1912.

HARRY M. PFLAGER.

Witnesses:

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FRED H. BLANKENHORN.