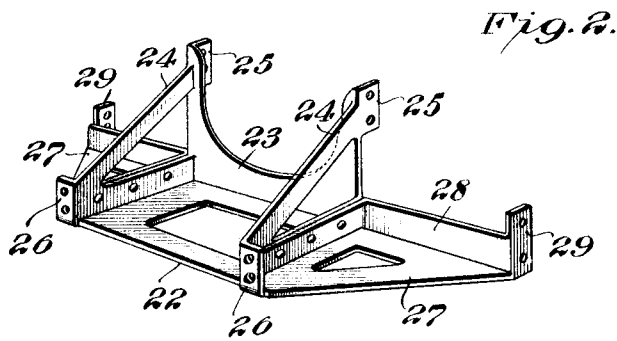
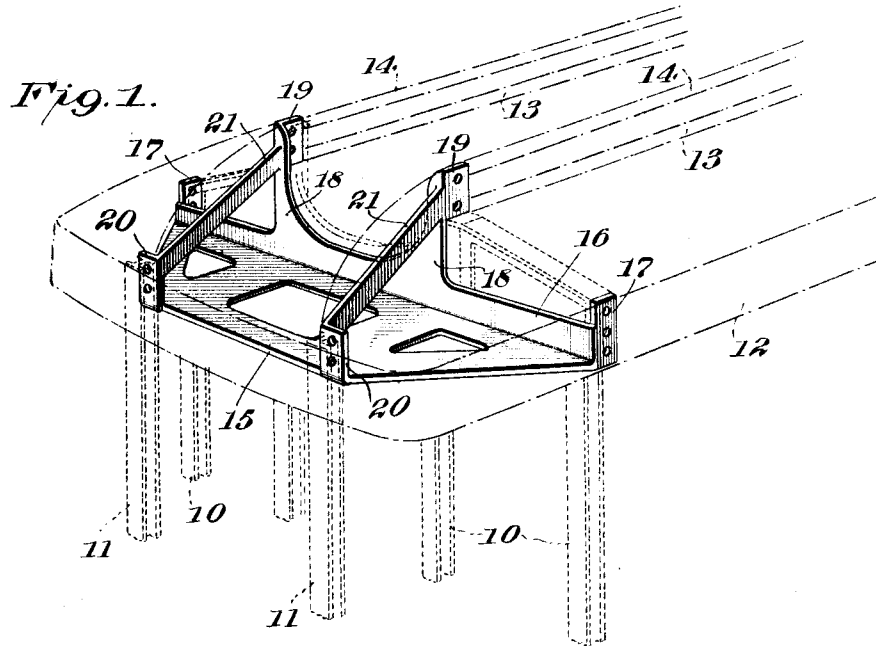


B. V. H. JOHNSON.
RAILWAY CAR HOOD FRAME.
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Patented Mar. 25, 1913.



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UNITED STATES PATENT OFFICE.

BOONE V. H. JOHNSON, OF ST. LOUIS, MISSOURI, ASSIGNOR TO COMMONWEALTH STEEL COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF NEW JERSEY.

RAILWAY-CAR-HOOD FRAME.

1,056,906.

Specification of Letters Patent.

Patented Mar. 25, 1913.

Application filed June 4, 1912. Serial No. 701,563.

To all whom it may concern:

Be it known that I, BOONE V. H. JOHNSON, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Railway-Car-Hood 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 a perspective view of a railway car hood frame of my improved construction the same being formed in a single piece. Fig. 2 is a perspective view of a modified form of my improved hood frame.

This invention relates generally to railway passenger car construction, and more particularly to the hood framing thereof, the principal object of my invention being to construct the hood frame in a single piece so as to greatly simplify and cheapen the cost of building up and assembling the hood and its supporting structure, and to provide a very strong and rigid structure adapted to bear inwardly against the upper portions of the car frame so as to effectively resist end shocks and crushing strains that may be developed in collisions between cars.

In the construction of the present types of railway cars, and particularly those cars used in passenger service, one of the principal objects of the car builders is to provide a particularly strong, reinforced end structure that will resist end shocks and crushing strains, thereby reducing to a minimum the tendency of the car bodies to telescope each other during collisions; and to this end various cast metal structures have been devised and are at present in general use, which structures include cast metal underframes, platforms, buffing sills, upright end frames and reinforced corner posts. To further strengthen and reinforce the ends of cars, and particularly that portion of the car superstructure between the upper end of the vestibule diaphragm and the upper portion of the car frame, I propose to provide a skeleton cast metal member that can be readily combined with the diaphragm posts and end frame, and will form a strong, rigid and comparatively light-weight frame for the car hood. Heretofore car hoods have usually been constructed from metal

bars or rolled sections bent to proper shape and attached to one another by means of rivets or like fastening devices, but such construction, besides being expensive, does not have sufficient strength to resist abnormal shocks or strains.

My improved hood frame is intended to be used with all forms of hood construction such as hoods constructed of wood, sheet metal, cast metal or a combination of wood and metal, and said hood frame is adapted for all types of cars having hoods, regardless of whether or not said cars are provided with diaphragm posts.

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

Referring by numerals to the accompanying drawings, 10 designates the upper right end frame of the car body, 11 the vestibule diaphragm posts, 12 the side plates, 13 the deck sills and 14 the deck plates.

As shown in Fig. 1, the preferred form of my improved hood frame comprises a horizontally disposed member 15, preferably a plate, the same occupying a position between the upper portion of the end frame 10 and the upper ends of the diaphragm posts 11. Formed integral with the rear portion of this member 15 is a vertically disposed flange 16 which bears directly against the upper portion of the end frame 10, and formed integral with the ends of this flange are rearwardly projecting plates or brackets 17 to which the side plates 12 of the car body frame are fixed. Formed integral with and projecting upwardly from the flange 16 are short, vertically disposed posts 18, and formed integral with the upper ends thereof are rearwardly projecting plates 19 to which the deck sills and deck plates are attached. Formed integral with the front portion of the member 15 are vertically disposed plates or brackets 20 against which the upper ends of the diaphragm posts 11 bear, and these parts are rigidly attached to each other in any suitable manner. Formed integral with and extending between the plates 19 and 20 are diagonally disposed brace members 21.

As shown in the modified construction illustrated in Fig. 2 the hood frame is constructed in three parts. The central part comprises a horizontally disposed member

22, a vertically disposed plate 23, diagonally disposed braces 24, rearwardly projecting plates 25 for the attachment of the deck sills and deck plates and vertically disposed plates, which receive the upper ends of the diaphragm posts 11. The side sections are each composed of a horizontally disposed member 27, vertically disposed flange 28 and rearwardly projecting plate 29, to which the side plate is attached. In this construction the side members or sections are attached to the central section in any suitable manner, preferably by means of rivets.

A car hood frame of my improved construction is comparatively light, strong and rigid and combines readily with the car end frame and vestibule diaphragm posts in forming a substantial structure that will resist end shocks and crushing strains due to collisions, thereby materially reducing the tendency of cars to telescope and consequently affording a maximum degree of safety to life and property.

The rear portion of the frame bears directly against the upper portion of the end portion of the car body frame, while the forward end of said frame bears directly against the rear sides of the vestibule diaphragm posts, and thus the main body portion of the frame, which is the horizontally disposed member 15, provides a very strong element which performs the function of a strut between the car frame and vestibule posts, and which strut is anti-telescopic in effect.

It will be readily understood that minor changes in the size, form and construction of the various parts of my improved construction 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 combination with a car body frame and vestibule diaphragm posts, of a car hood frame spanning the space between the upper portions of the diaphragm posts and the upper portion of the car body frame, which hood frame includes a horizontally disposed plate, means on the rear portion thereof for attachment to the side plates, deck plates, and deck sills of the car body frame, and means on the front portion of the horizontally disposed plate for attachment to the diaphragm posts.

2. The combination with a car body frame and vestibule diaphragm posts, of a hood frame spanning the space between the upper portions of the diaphragm posts and car body frame, which hood frame comprises a horizontally disposed plate, upright members on the rear edge of said plate, which upright members are adapted to be connected to parts of the car body frame, up-

right members on the front portion of the horizontally disposed plate for attachment to the diaphragm posts, and braces between the upright members on the front and rear portions of said horizontally disposed plate.

3. As a new article of manufacture, a car hood frame constructed in a single piece and comprising a skeleton member adapted to span the space between the car frame and vestibule diaphragm posts, and flanges integral with said member for the attachment of the deck sills and deck plates.

4. An article of manufacture, an integral car hood frame, a horizontally disposed member adapted to span the space between the car frame and vestibule diaphragm posts, flanges on the forward end of said member for the attachment of the vestibule diaphragm posts, upright members on the rear portion of said member, flanges on said upright members for the attachment of the deck sills and deck plates and braces between said upright members and the flanges on the forward end of said member.

5. An article of manufacture, an integral car hood frame, a horizontally disposed member adapted to span the space between the car frame and vestibule diaphragm posts, flanges on the forward end of said member for the attachment of the vestibule diaphragm posts, upright members on the rear portion of said member, flanges on said upright members for the attachment of the deck sills and deck plates, and braces between said last mentioned flanges and the flanges on the front portion of said member.

6. As a new article of manufacture, a skeleton frame for car hoods comprising a horizontally disposed member adapted to span the space between the car frame and vestibule diaphragm posts, and which horizontally disposed member is provided with integral parts adapted to receive the side plates, the deck sills and deck plates of the car frame.

7. As a new article of manufacture, a skeleton frame for car hoods comprising a horizontally disposed member adapted to span the space between the car frame and the vestibule diaphragm posts, a vertically disposed flange on the rear portion of said horizontally disposed member, and parts on said flange adapted to receive the side plates, deck sills and deck plates of the car frame.

8. The combination with a car frame and vestibule diaphragm posts, of a skeleton frame for the car hood, comprising a horizontally disposed member arranged and spanning the space between the upper portions of said posts and the upper portion of said car frame, a vertically disposed flange on the rear portion of said member, which flange bears directly against the frame and braces between the upper portion of the ver-

tically disposed flange and the front portion of said horizontally disposed member.

9. As a new article of manufacture, a skeleton frame for supporting and reinforcing a car hood structure, comprising a skeleton member that is substantially L-shaped in cross section, and which is adapted to span the space between the end of the car body and the upper portions of the vestibule diaphragm posts, braces between the upright and horizontal legs of said member, and means on said member for attachment to the side plates, the deck plates and the deck sills of the car body frame.

10. As a new article of manufacture, a skeleton frame for supporting and reinforcing a car hood structure, comprising a skele-

ton member that is substantially L-shaped in cross section, and which is adapted to span the space between the end of the car body and the upper portions of the vestibule diaphragm posts, braces between the upright and horizontal legs of said member, and means on said member for attachment to the side plates, the deck sills and deck plates of the car body frame and the vestibule diaphragm posts of the car.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this 20th day of May, 1912.

BOONE V. H. JOHNSON.

Witnesses:

HAL C. BELLVILLE,

FRED H. BLANKENHORN.