J. M. HOPKINS.

CAR BODY.

APPLICATION FILED MAY 21, 1909.

933,903.

Patented Sept. 14, 1909.

2 SHEETS—SHEET 1.

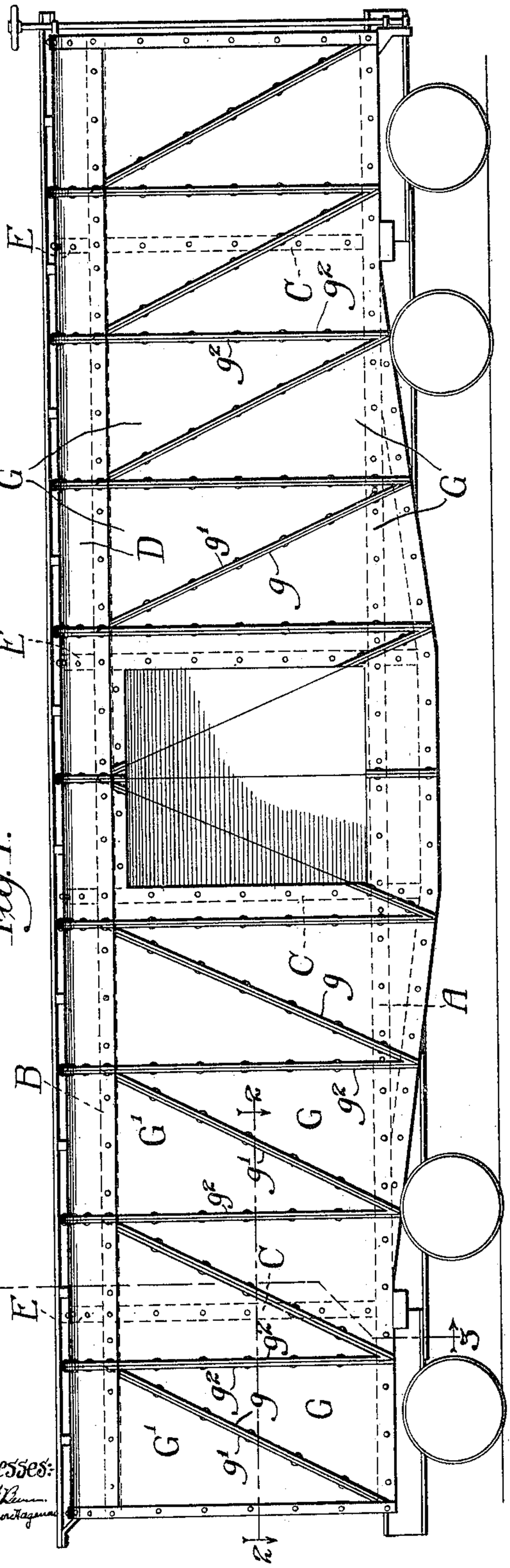

Fig. 1.

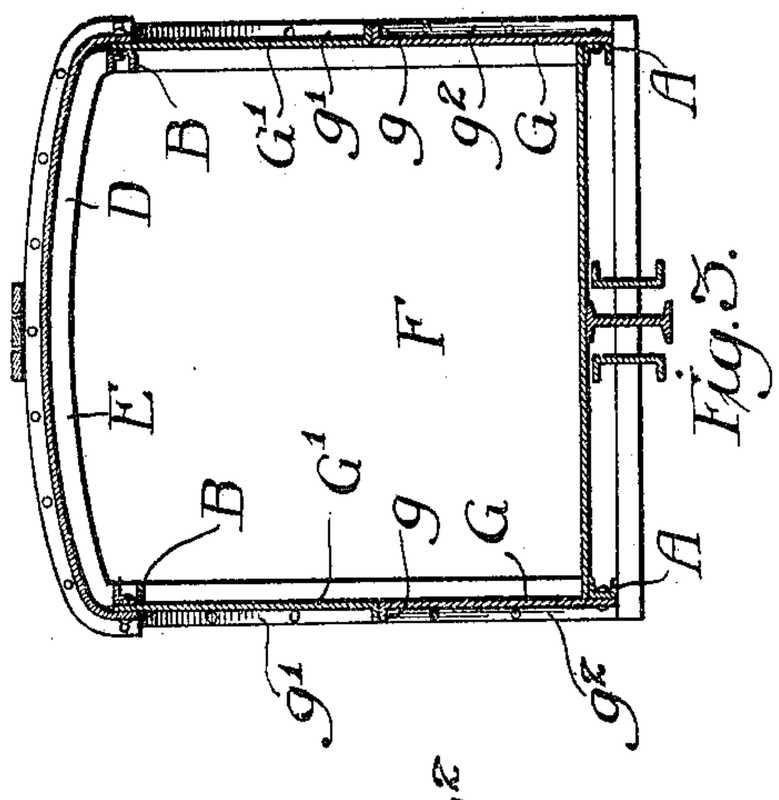

Fig. 3.

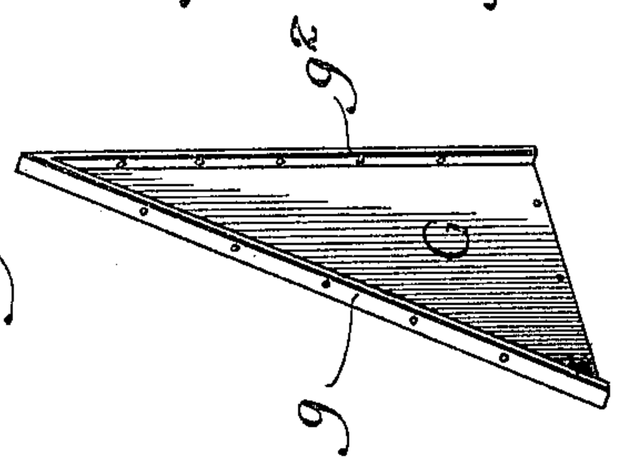

Fig. 4.

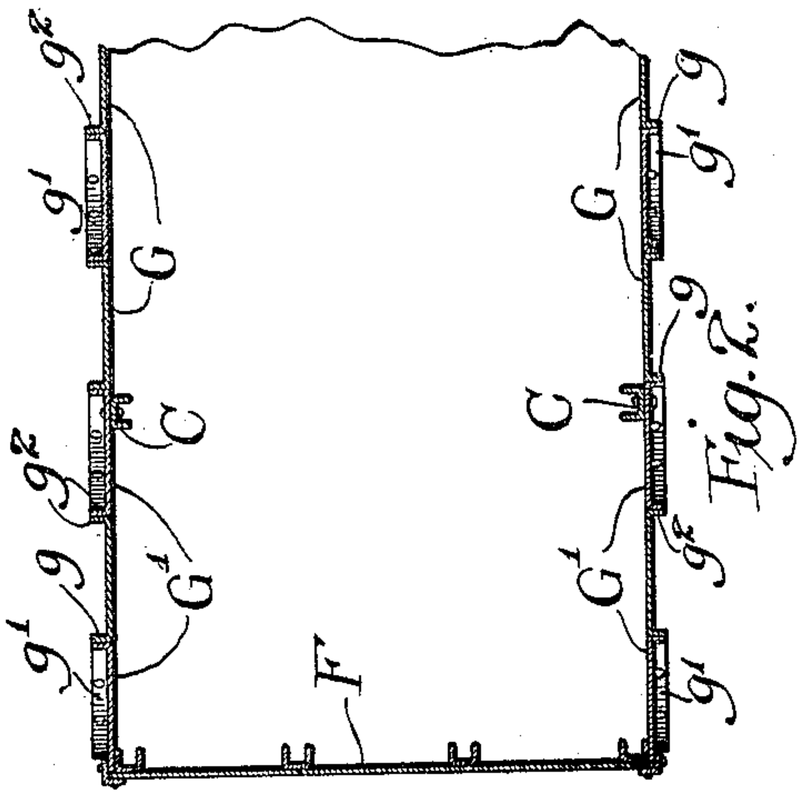

Fig. 2.

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2 SHEETS—SHEET 2.

Fig. 5.

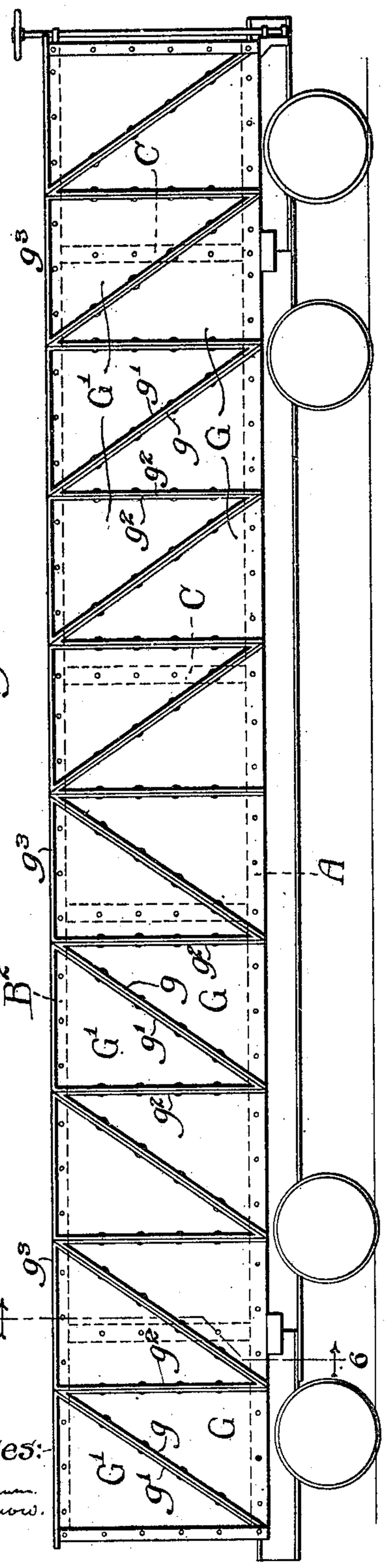


Fig. 6.

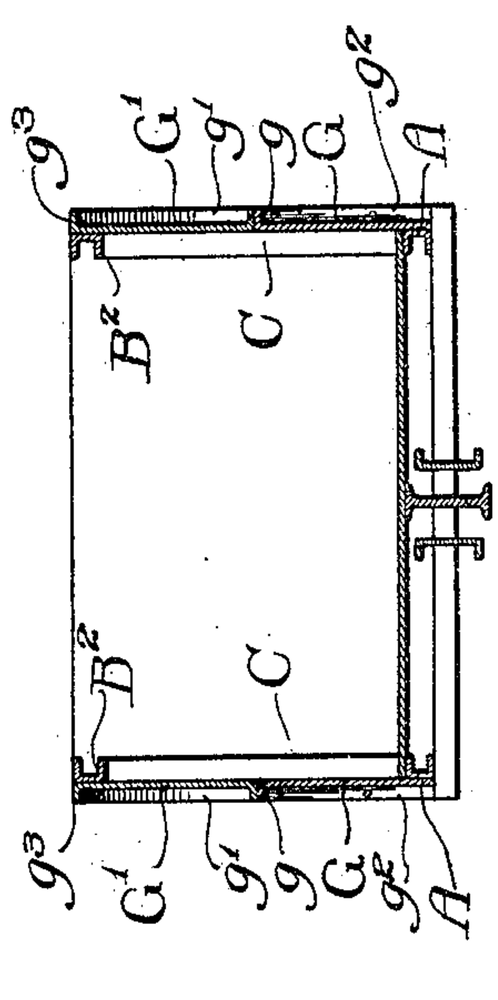
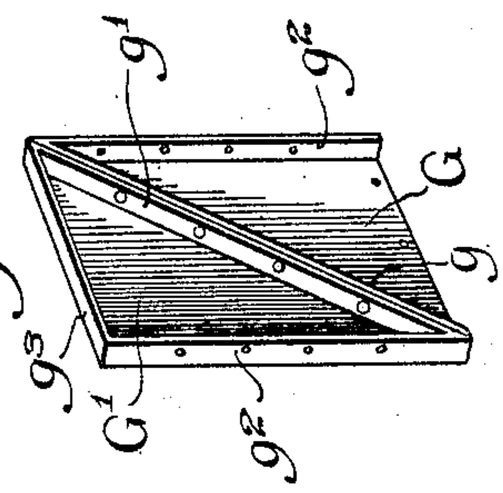


Fig. 7.



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UNITED STATES PATENT OFFICE.

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CAR-BODY.

933,903. Specification of Letters Patent. Patented Sept. 14, 1909.

Application filed May 21, 1909. Serial No. 497,412.

To all whom it may concern:

Be it known that I, JAMES M. HOPKINS, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Car-Bodies, of which I do declare the following to be a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

In an application filed by me in the United States Patent Office January 27, 1909, Serial No. 474,381, I have described and claimed broadly a certain improvement in the construction of car-bodies, which consists in forming a car-body with a wall comprising metal plates secured together and having flanges extending in diagonal direction in order to give increased strength and rigidity to the car-body.

The present invention is designed as an improvement upon the construction set forth in my above mentioned application, although falling within the broad claims of said application.

This invention consists in the features of construction hereinafter described, illustrated in the accompanying drawings and particularly pointed out in the claims at the end of this specification.

Figure 1 is a view in side elevation of a freight car embodying my invention. Fig. 2 is a view in horizontal section on line 2—2 of Fig. 1. Fig. 3 is a view in vertical cross section on line 3—3 of Fig. 1. Fig. 4 is a perspective view showing one of the triangular plates of which the side wall of my car-body is composed. Fig. 5 is a view in side elevation showing my invention as applied to an open freight car, such as is commonly used for the transportation of coal or like material. Fig. 6 is a view in vertical cross section on the line 6—6 of Fig. 5. Fig. 7 is a perspective view showing two of the triangular plates of which the wall of the car-body illustrated in Fig. 5 is composed.

The framework of my car-body may be of any suitable or approved construction, such, for example, as that shown in my hereinbefore mentioned application. As illustrated the framework may be formed of longitudinal sills A extending at each side of the bottom of the car-body and side plates B extending along the top of the car-body beneath the roof, these side plates B and sills A having arranged between them the vertical posts C. The roof D of the car-body may be of any approved construction, but is preferably formed of metal sheets that extend over carlines E, the ends of which rest upon the plates B. The depending edges of the roof plates D are shown as riveted to the plates B.

The end walls F of the car-body may be formed of metal plates in any desired arrangement, but as the construction of these end walls forms no part of my present invention it need not be more particularly described.

The side walls of my improved car-body are formed of triangular metal plates G and G′ that are preferably reversely disposed, as shown in the drawings, and the abutting edges of the plates G and G′ are formed upon one side at least with flanges g and g' that are riveted together. These flanges g and g' extend in diagonal direction and are preferably inclined from the bottom inwardly toward the top of the car, thereby forming a diagonal brace which very materially stiffens and strengthens the car-body. Preferably, also, the vertical edges of the plates G and G′ are formed with flanges g^2 that will be united together by rivets, these vertical flanges g^2 also giving increased strength and rigidity to the structure. I do not deem it necessary to flange either the lower edges of the plates G, or the upper edges of the reversely disposed plates G′ where these plates are secured respectively to the sills A and to the side plates B. Preferably, the inclined flanges g, g' of the plates extend in opposite directions from the center of the car,—that is to say, the flanges g, g' at each side of the car are inclined oppositely and toward the vertical transverse center of the car.

In Figs. 5 to 7 of the drawings I have shown my invention as applied to an open freight car, such as is commonly used for the transportation of coal or the like. In this form of the invention the plates G and G′ that comprise the side walls of the car are similar in shape to the plates illustrated upon sheet 1 of the drawings, except that the upper edges of the plates G′ are formed with the flanges g^3 which give increased strength and rigidity to the upper edge of the car-body. The upper portions of the plates G′ are riveted to channel bars or plates B^2 that extend at each side of the car-body at or adjacent its top, and the lower

edges of the plates G are riveted to the sills A. If desired the plates G may have their bottom edges flanged, although I do not regard this as necessary. In this form of my invention, as in that hereinbefore described, the diagonally extending flanges g and g' of the plates G and G′ are disposed with opposite inclinations at each side of the center of the car, as this will be found to give the greatest strength and rigidity to the structure. So, also, in this form of the invention each side wall of the car has, at its center, two of the plates G arranged with their vertical flanges g^2 riveted together, the diagonal flanges g of these central plates being riveted to the corresponding flanges g' of the plates G′. The reversely disposed flanges thus formed at the center of the car will be found to act as trusses and to give great strength to such portion of the car.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A car-body the walls whereof comprise metal plates having their vertical and diagonal edges flanged, said plates being secured together.

2. A car-body the walls whereof comprise metal plates of triangular outline having their longest sides flanged and secured together.

3. A car-body the walls whereof comprise metal plates of triangular outline, said plates being reversely arranged and having flanged edges secured together and forming diagonal braces.

4. A car-body the walls whereof comprise metal plates of triangular outline, said plates having vertical and diagonal flanges and being secured together.

5. A car-body the walls whereof comprise metal plates having diagonal and vertical flanges, the diagonal flanges at opposite sides of the center of the car being reversely arranged.

6. A car-body having a side wall formed of a plurality of triangular plates, the plates at the center of the car being united by their vertical flanges and having their diagonal flanges oppositely disposed.

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