

No. 819,489.

PATENTED MAY 1, 1906.

H. W. WOLFF.
END BRACING FOR CARS.
APPLICATION FILED DEC. 11, 1905.

Fig. 1.

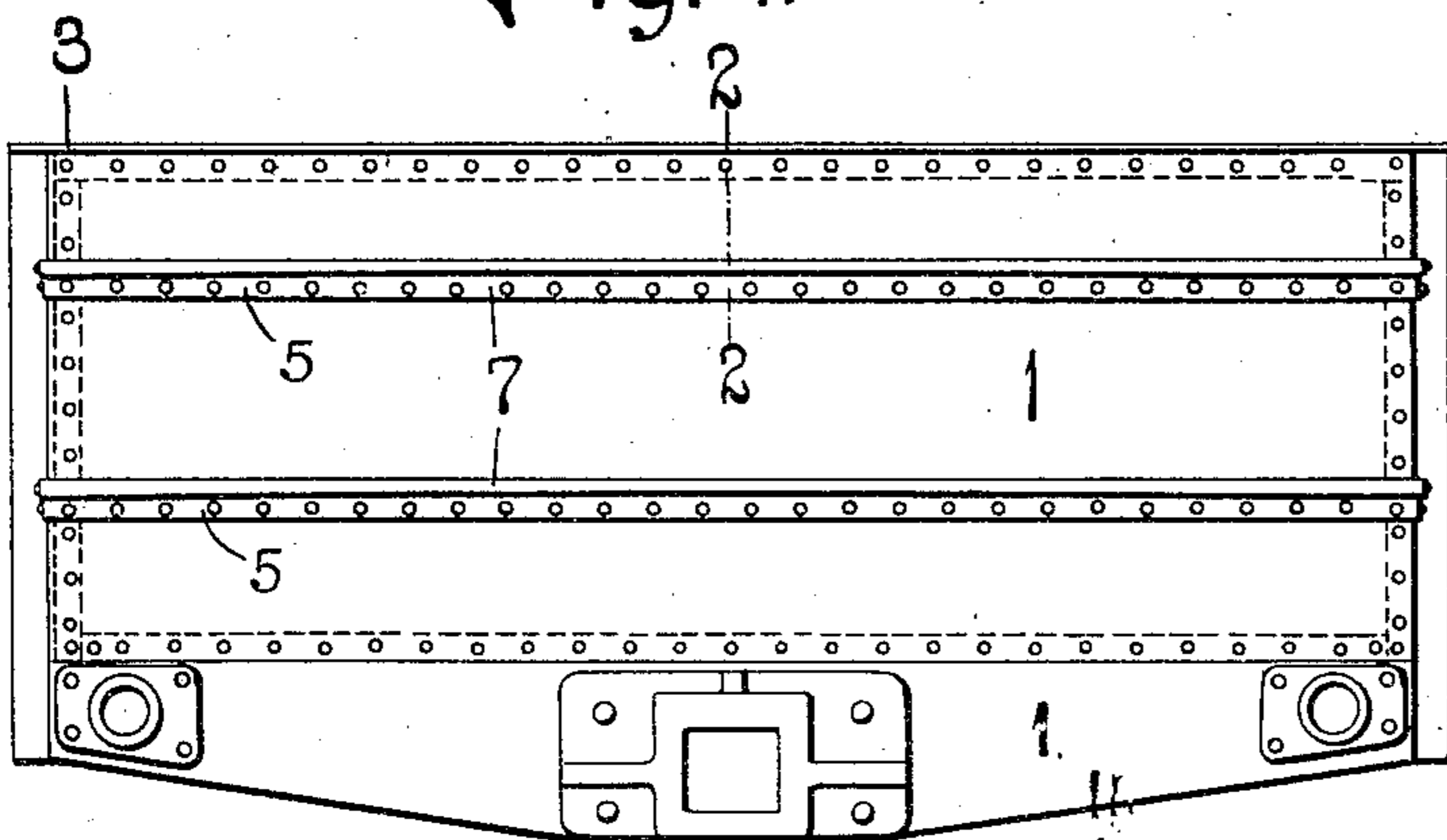


Fig. 2.

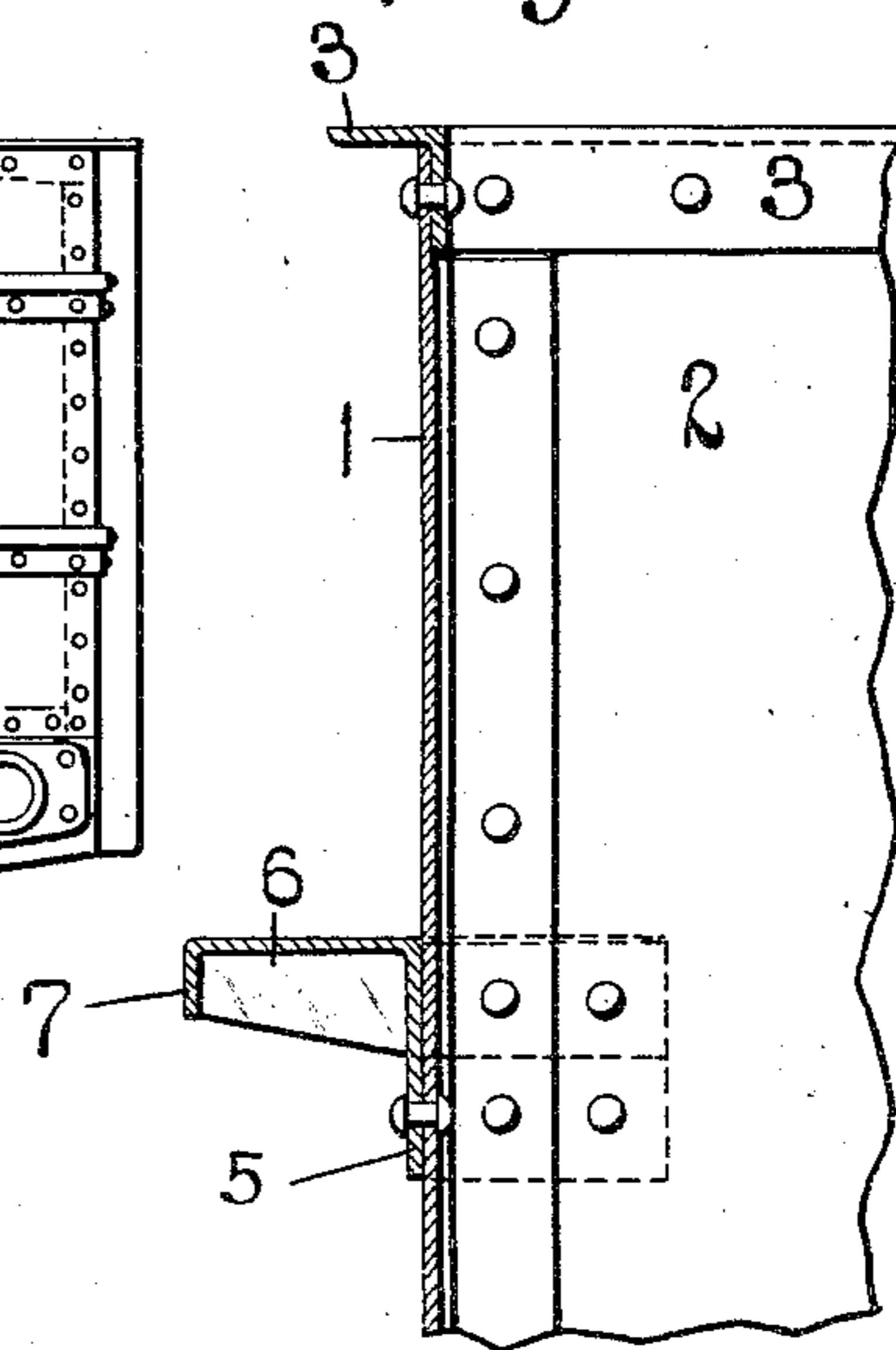


Fig. 4.

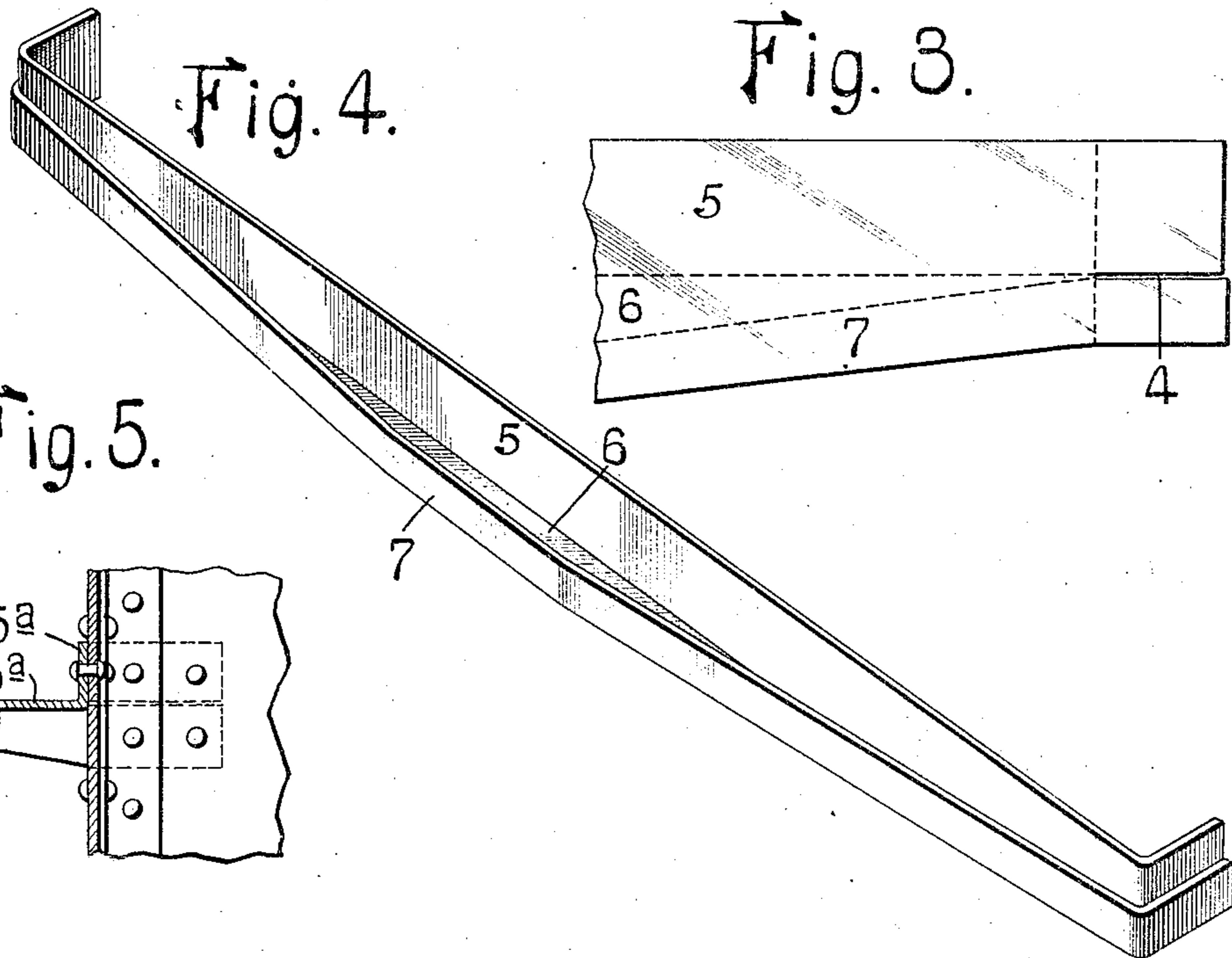


Fig. 3.

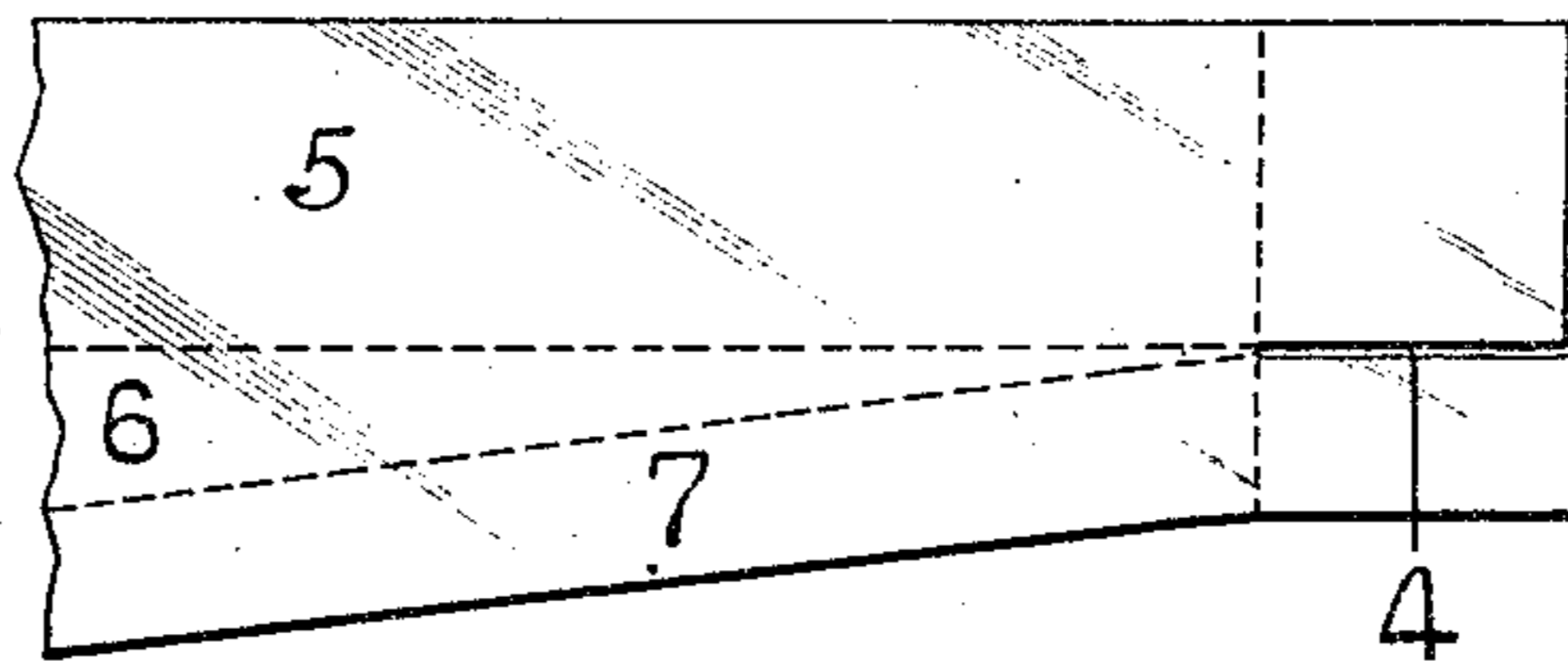
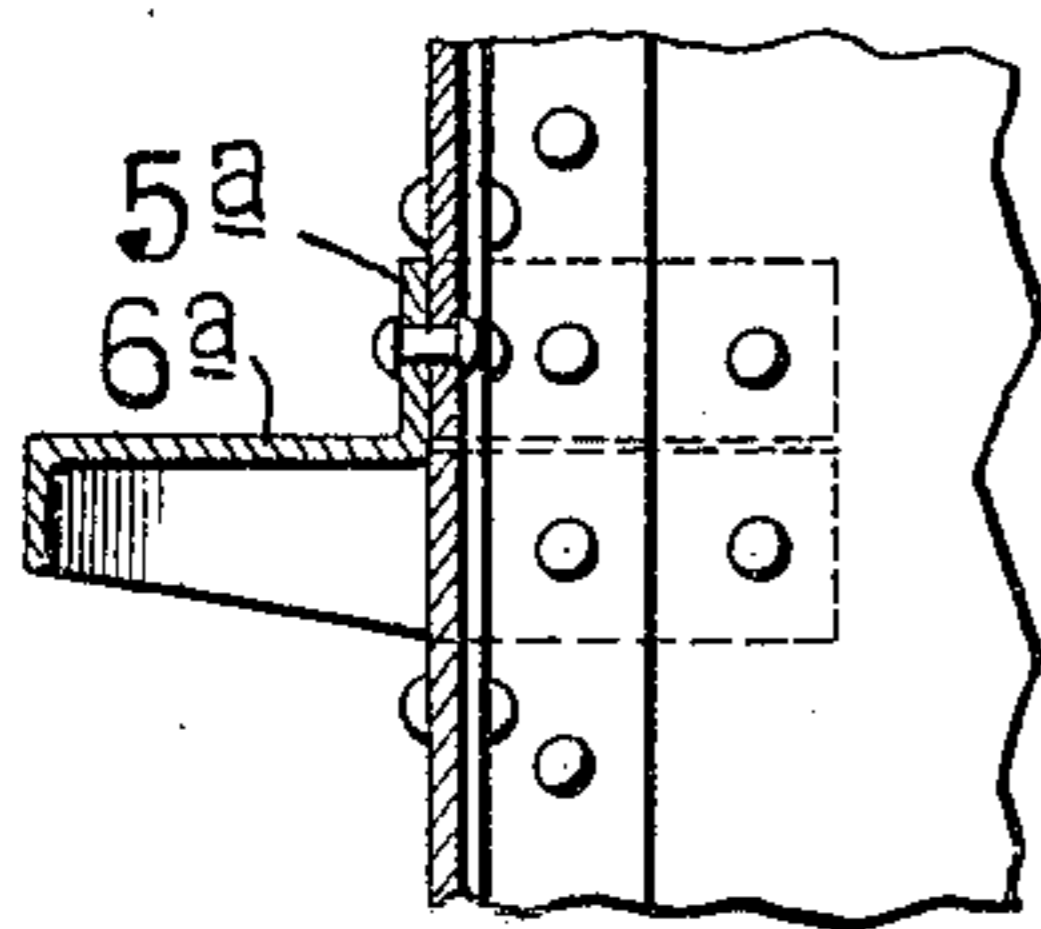


Fig. 5.



Witnesses
A. J. McCauley
Wells L. Church

Inventor:
Herbert W. Wolff
by B. K. Cornell
Att'y's.

UNITED STATES PATENT OFFICE.

HERBERT W. WOLFF, OF ST. LOUIS, MISSOURI, ASSIGNOR TO AMERICAN CAR & FOUNDRY COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF NEW JERSEY.

END BRACING FOR CARS.

No. 819,489.

Specification of Letters Patent.

Patented May 1, 1906.

Application filed December 11, 1905. Serial No. 291,257.

To all whom it may concern:

Be it known that I, HERBERT W. WOLFF, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in End Bracings for Cars, 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 end elevational view of a gondola car provided with my improved end-wall brace. Fig. 2 is an enlarged vertical sectional view on the line 2-2 of Fig. 1. Fig. 3 is a plan view of a portion of one end of the blank from which the brace is formed. Fig. 4 is a detail view of the brace inverted, and Fig. 5 is a vertical cross-sectional view showing a modified form of my invention.

This invention relates to a new and useful improvement in braces or reinforcing-trusses for the end walls of cars, particularly of that type of cars known as "gondola" cars, the object being to stiffen the end wall against bulging tendencies and also to more effectually tie the ends of the side walls in position.

With these objects in view the invention consists in the construction, arrangement, and combination of the several parts, all as will be hereinafter described, and afterward pointed out in the claims.

In the drawings, 1 indicates the end wall of a gondola car, and 2 the side walls, which end and side walls are, as usual, provided with angles 3 at their upper edges. The brace for the end wall, as shown in Fig. 2, is substantially channel-shaped throughout its length, the legs or flanges of the channel converging from the center toward the ends of the brace, where the legs or flanges meet and are folded around the sides of the car, they being riveted to the side walls and the end posts or corner-connection angles, as will be well understood.

The brace is preferably made from a blank such as shown in Fig. 3, wherein it will be seen that at that point where the legs or flanges of the channel are folded upon each other there is a cut or shear (indicated by the numeral 4) which facilitates the bending operation. The leg or flange 5 of the channel which lies next to the end wall of the

car is preferably straight, and this extends around the sides of the car.

6 is a horizontal web portion which is widest at the center of the car and tapers thence toward the sides. Depending from the forward edge of this horizontal web is the outer leg or flange 7 of the channel, this leg or flange being preferably shallowest at its middle portion and becoming slightly deeper toward the sides of the car, said leg or flange at the sides of the car being folded upon the leg or flange 5 and around the sides of the car, the two legs or flanges being riveted where they overlap each other by the same set of rivets which secure the corner-connection angle and the side wall of the car. The object in making the outer leg or flange of the channel short and of less depth than the inner leg or flange is to enable the riveting-machine to have easy access in riveting the inner leg or flange to the end wall of the car.

While I have shown a line of rivets extending along the inner leg or flange at the center of the car, it will be obvious that these are not necessary, as the rivets may be omitted at the center of the car.

My improved brace not only strengthens the end wall of the car and resists buckling tendencies thereof, but said brace is also of sufficient strength to carry vertical loads, and thus affords a shallow platform or a step for the train-crew at the end of the car.

In Fig. 5 I have shown a modified form of my invention, in which the securing-flange 5^a, arranged along the inner edge of the horizontal portion 6^a, extends upwardly and is lapped around the side walls of the car.

I am aware that minor changes in the construction, arrangement, and combination of the several parts of my device can be made and substituted for those herein shown and described without in the least departing from the nature and principle of my invention.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. An end brace for cars consisting of a horizontal portion of varying width with a leg or flange at its inner edge for attachment to the end wall of a car; substantially as described.

2. An end brace for cars consisting of a

horizontal portion of varying width with a leg or flange at its inner edge for attachment to the end wall of a car, said flange extending around the corners and attached to the side walls of the car; substantially as described.

3. An end brace for cars consisting of a horizontal portion with a leg or flange at its inner edge for attachment to the end wall of a car, and a flange or leg at the outer edge of said horizontal portion; substantially as described.

4. An end brace for cars consisting of a horizontal portion with a leg or flange at its inner edge for attachment to the end wall of a car, and a flange or leg at the outer edge of said horizontal portion, said flanges extending around the corners of the car and attached to the side walls thereof; substantially as described.

5. An end brace for cars comprising a device of truss form extending transversely outside the end of the car and connected to the end wall; substantially as described.

6. An end brace for cars comprising a device of truss form extending transversely outside the end of the car and connected to the side walls thereof; substantially as described.

7. An end brace for cars consisting of a horizontal portion whose legs or flanges are of unequal lengths; substantially as described.

8. A transversely-extending end brace for cars comprising an approximately channel-shaped body having a horizontal portion widest at the center and tapering thence toward the sides of the car; substantially as described.

9. An end brace for cars having a horizontal portion tapering from the center toward the ends, the legs or flanges thereof being of unequal lengths; substantially as described.

10. An end brace for cars having a horizontal portion provided with legs or flanges separated at the center and lying directly upon each other at the ends of the brace; substantially as described.

11. An end brace for cars which is substantially channel-shaped, the web of the channel being horizontally disposed, and being widest at the center, the legs of said channel lying directly upon each other at the ends of the brace and extending around the corners of the car; substantially as described.

12. An end brace for cars, the same comprising a channel-shaped body whose web

portion is widest in the center and tapers toward the ends of the brace, and the legs of the channel being of unequal lengths and lying directly upon each other at the ends of the brace; substantially as described.

13. A blank from which car-braces may be formed, said blank having a cut or shear in its end dividing the end portion of the blank into two portions whereby said end portions may be folded upon each other and bent at an angle to the body portion of the blank; substantially as described.

14. An end brace for cars comprising a body portion having a horizontal web and depending flanges of unequal lengths, one of said flanges being shallower at its middle portion than at its ends; substantially as described.

15. An end brace for cars which is substantially channel-shaped, the web of said channel being widest at its middle portion and tapering thence toward the ends of the brace so as to throw the legs of the channel in close proximity to each other, the material between the legs beyond the ends of the web being cut away to facilitate the bending of the legs; substantially as described.

16. An end brace for cars comprising a substantially trough-shaped body, the ends of which are adapted to be connected to the opposite sides of the car, the web portion of said body being horizontally disposed; substantially as described.

17. An end brace for cars comprising a channel-shaped body extending transversely of the end of the car and having its ends connected to the opposite sides of the car, the web portion of said body being horizontally disposed; substantially as described.

18. An end brace for cars comprising a substantially channel-shaped member extending transversely of the end of a car and having its opposite ends extending at an angle to the body portion thereof and connected to the sides of the car, the web portion of said body lying in a horizontal plane; substantially as described.

In testimony whereof I hereunto affix my signature, in the presence of two witnesses, this 7th day of December, 1905.

HERBERT W. WOLFF.

Witnesses:

CORA BADGER,

GEORGE BAKEWELL.