

No. 891,296.

PATENTED JUNE 23, 1908.

C. S. SHALLENBERGER.  
UNDERFRAME FOR CARS.

APPLICATION FILED DEC. 2, 1907.

2 SHEETS—SHEET 1.

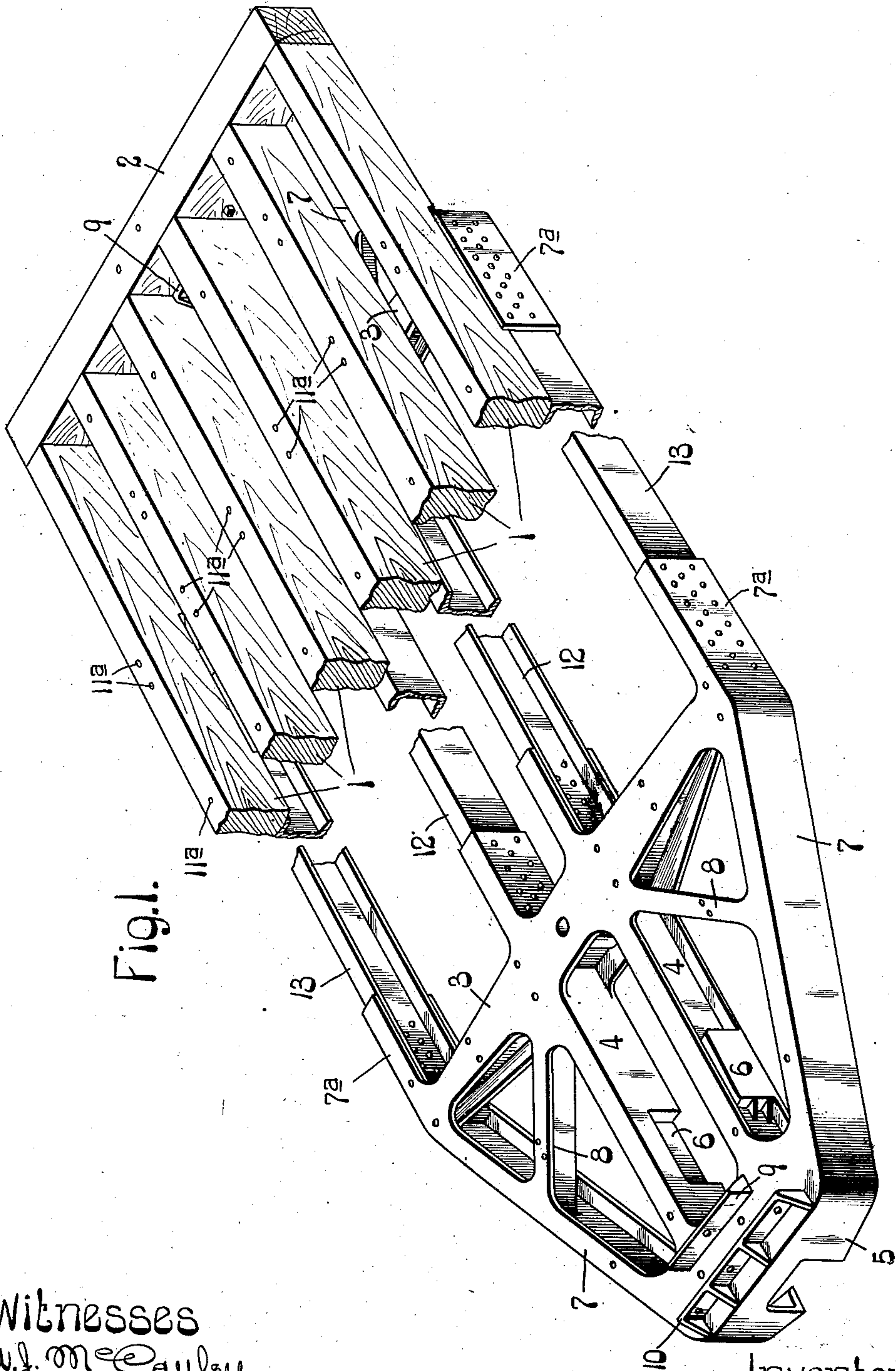


Fig. 1.

Witnesses  
a. j. m. Cauley  
Cora Badger.

Inventor  
Charles S. Shallenberger

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2 SHEETS—SHEET 2.

Fig. 2.

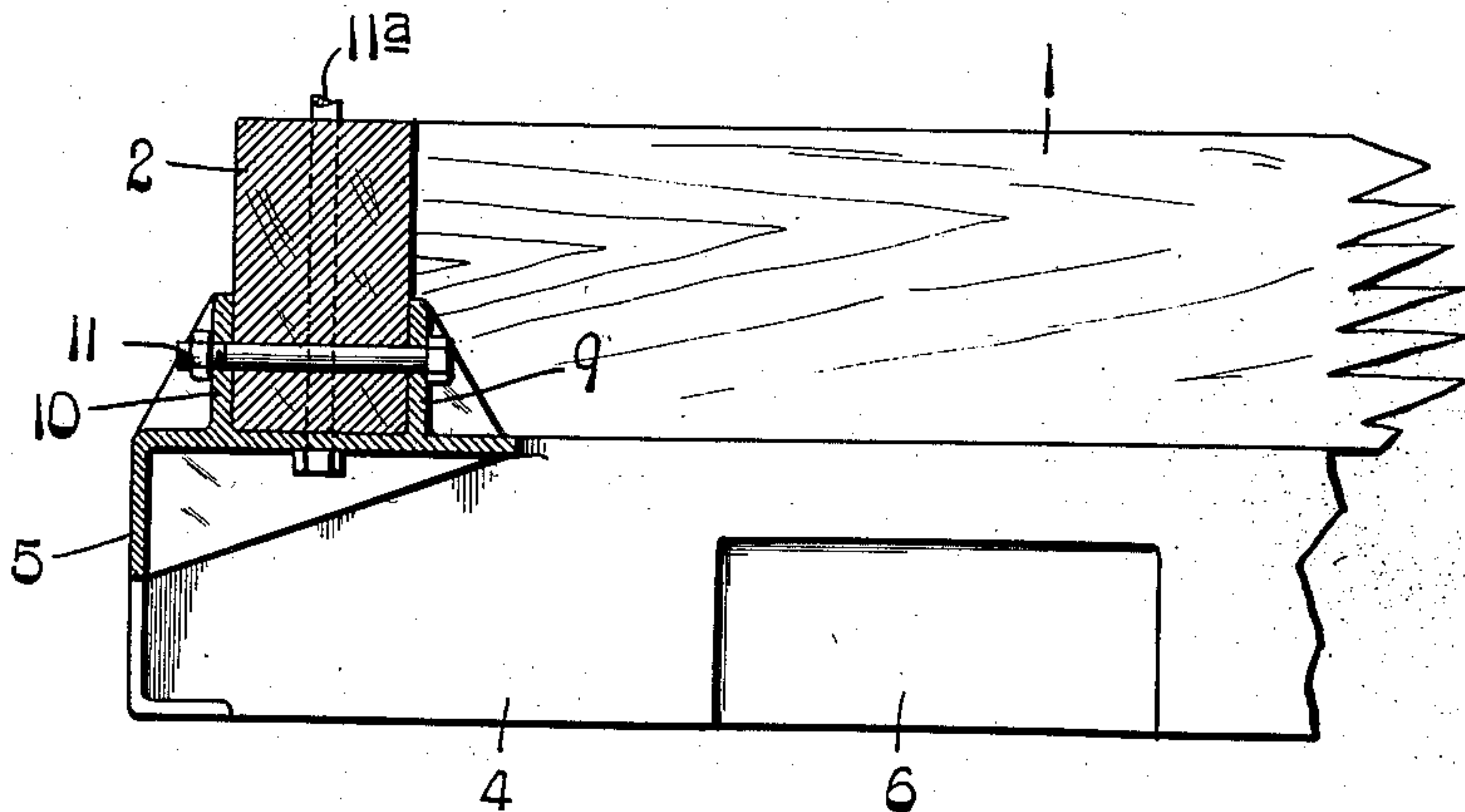
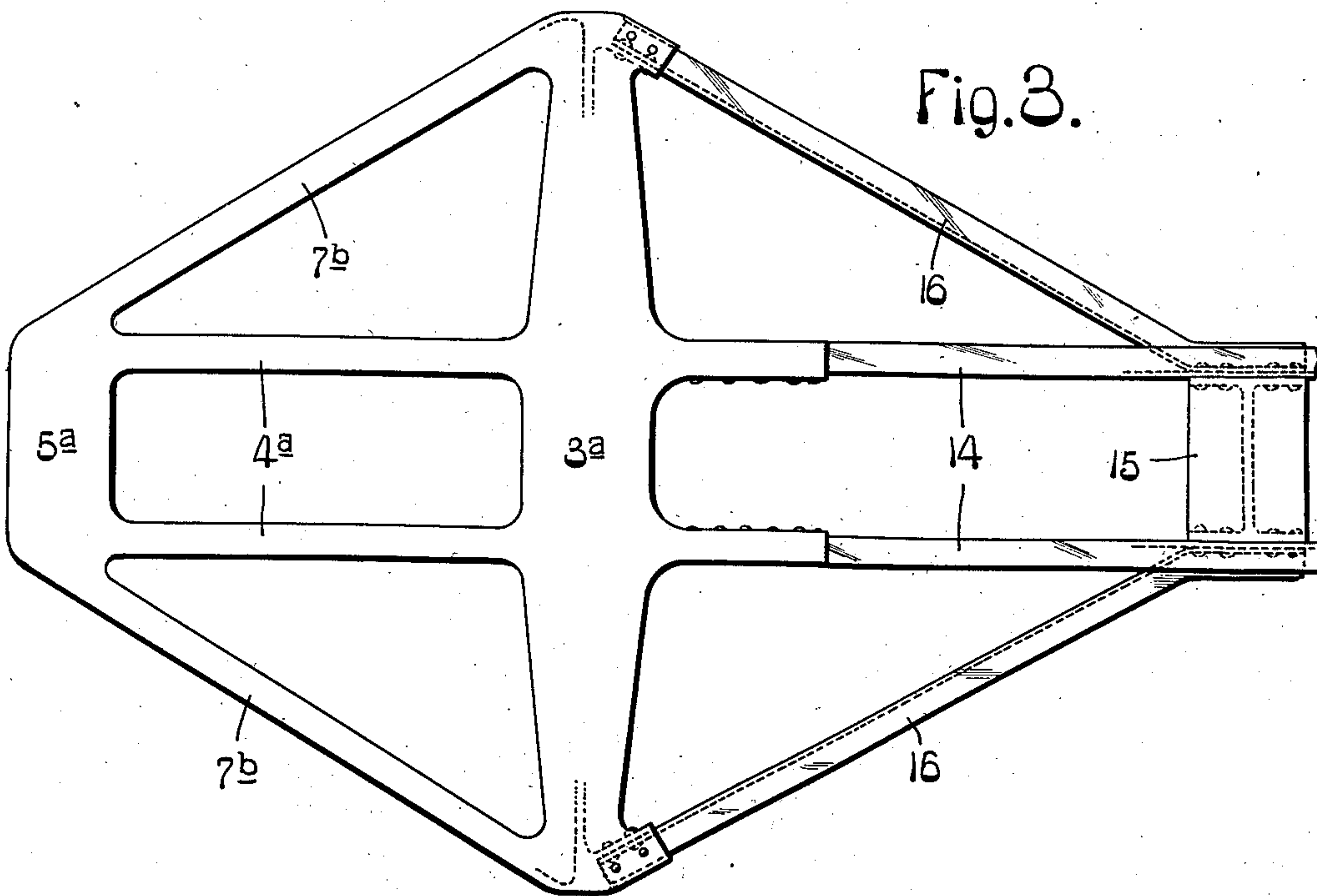


Fig. 3.



Witnesses  
A. J. McCauley  
Cord Badger

Inventor:  
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# UNITED STATES PATENT OFFICE.

CHARLES S. SHALLENBERGER, OF ST. LOUIS, MISSOURI.

## UNDERFRAME FOR CARS.

No. 891,296.

Specification of Letters Patent.

Patented June 23, 1908.

Application filed December 2, 1907. Serial No. 404,723.

*To all whom it may concern:*

Be it known that I, CHARLES S. SHALLENBERGER, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Underframes 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 a perspective view of my improved underframe for cars; Fig. 2 is a vertical longitudinal sectional view of the end portion of the underframe; and Fig. 3 illustrates a modified form of underframe.

This invention relates to new and useful improvements in underframes for cars.

There are many wooden cars in use to-day, which, on account of the high price and scarcity of proper timber, are being abandoned because it is almost impossible to obtain the proper timber necessary for repairs.

One of the principal objects of my invention, therefore, is to provide a metallic underframe of maximum strength and minimum weight which can be used in wooden car construction, said underframe being capable of being placed under existing cars.

My improved underframe is composed of a small number of parts which are easy to assemble, and is adapted for use on various types of cars both new and old.

Referring to Figure 1 of the drawings which illustrates my improved underframe applied to a wooden car in such manner that it constitutes an auxiliary underframe for supporting the car body, 1 indicates the longitudinal sills of the wooden underframe and 2 is the end sill thereof. This wooden underframe is supported by and secured to the auxiliary underframe.

3 is a body bolster, and 4 indicates short draft or center sills which are connected together at their outer ends by means of a short end sill or buffer block 5, said shaft sills being provided with pockets 6 for the reception of a draft rigging. Where I refer to the buffer block 5 in the claims I mean to include a short end sill as well as a buffer block. Diagonal members 7, which might

be properly termed short side sills, extend from the ends of the bolster 3 to the buffer block 5, and if desired these members 7 may be reinforced by a diagonal brace 8.

The bolster, draft sills, buffer block and diagonal members are preferably in the form of a single casting which I term an end casting, one of said castings being arranged under each end of the car. When applied to a wooden car each of these castings is preferably provided with abutments 9 and 10 on its upper face, which abutments engage the inner and outer faces respectively of the wooden end sill, and thereby lock the wooden underframe to the metallic underframe. Horizontally arranged bolts 11 pass through the abutments 9 and 10 and connect the wooden end sill to the end casting. The wooden underframe is also secured to the metallic underframe by means of vertical bolts 11<sup>a</sup>.

12 indicates center sills, the ends of which are secured to inwardly projecting portions of the end castings. The end castings are also provided with inwardly projecting portions 7<sup>a</sup> which are continuations of the diagonal members 7. Side sills 13 have their ends secured to the projections 7<sup>a</sup>.

Fig. 3 illustrates an underframe in which the side sills connecting the end castings are dispensed with. This form of underframe is particularly adapted for use on tank cars, or wooden cars in which it is not deemed necessary to employ auxiliary side sills. The end casting used in connection with this underframe is substantially the same as the casting shown in Fig. 1, and comprises a bolster 3<sup>a</sup>, short draft sills 4<sup>a</sup>, a buffer block 5<sup>a</sup> and diagonal members 7<sup>b</sup>, which latter connect the ends of the bolster to the buffer block.

14 indicates center sills which are connected to the bolster 3<sup>a</sup>. A filler block 15 is arranged between the center sills 14. Diagonal braces 16, which are secured to the ends of the bolster, extend inwardly to the center sills 14, and have their inner ends fastened to the center sills at a point adjacent to the filler block 15.

My improved underframe eliminates a large percentage of the material usually employed in the end portion of an underframe,



as the diagonal members 7 which extend from the ends of the bolster to the buffer block form the outside margin of the underframe at this point. When this underframe is used as an auxiliary underframe on wooden cars, the wood sills can be relied upon to support the load beyond the diagonal members 7.

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 my invention, what is claimed as new and desired to be secured by Letters Patent is:

1. A railway car having a metallic underframe which is adapted to receive the buffing and pulling shocks, the ends of said underframes being formed by substantially V-shaped castings, a wooden underframe, and means for interlocking said underframes, said means including abutments on the metallic underframe; substantially as described.

2. A railway car having a metallic underframe which is adapted to receive the buffing and pulling shocks, a wooden underframe, the corners of which extend beyond the metallic underframe, and means for interlocking said underframes, said means including abutments on the metallic underframe, which cooperate with the end sill of the wooden underframe; substantially as described.

3. A railway car in which the buffing and pulling shocks are transmitted through and borne by a metallic underframe, abutments on the upper face of said underframe, a wooden underframe supported by and arranged entirely above the metallic underframe, said wooden underframe including an end sill which is interposed between said abutments; substantially as described.

4. An auxiliary underframe for cars, the same comprising metallic longitudinal sills, and castings connected to the ends of said longitudinal sills, each of said castings consisting of a bolster, draft sills and side sills, said castings being provided with abutments which are adapted to interlock with a wooden underframe; substantially as described.

5. An auxiliary underframe for cars, the same comprising metallic longitudinal sills, and substantially V-shaped castings connected to the ends of said longitudinal sills, said castings being provided with abutments which are adapted to interlock with a wooden underframe; substantially as described.

6. An auxiliary underframe for cars, the same comprising metallic longitudinal sills,

and substantially V-shaped castings connected to the ends of said longitudinal sills, said castings being provided with abutments which are adapted to interlock with the end sill of a wooden underframe; substantially as described.

7. A railway car having a metallic underframe, the ends of which are formed by substantially V-shaped castings and a wooden underframe, the wooden underframe being arranged between abutments on the metallic underframe; substantially as described.

8. A railway car having a metallic underframe, the ends of which are formed by substantially V-shaped castings and a wooden underframe, the metallic underframe having abutments on its upper face which engage the end faces of said wooden underframe; substantially as described.

9. A railway car having a metallic underframe, the ends of which are formed by substantially V-shaped castings and a wooden underframe, bolts connecting said underframes to each other, the wooden underframe being arranged between abutments on the metallic underframe; substantially as described.

10. An underframe for cars, the same having an intermediate portion in the form of a longitudinal sill, and end portions in the form of substantially V-shaped castings connected to the ends of said longitudinal sill; substantially as described.

11. An underframe for cars having an intermediate portion in the form of a longitudinal sill, and end portions in the form of castings connected to the ends of said longitudinal sill, each of said castings having a substantially V-shaped margin, the reduced portion of which constitutes a buffer block; substantially as described.

12. An underframe for cars having an intermediate portion in the form of a longitudinal sill, and end portions in the form of castings connected to the ends of said longitudinal sill, each of said castings constituting a bolster and having a substantially V-shaped marginal portion which connects the ends of said bolster; substantially as described.

13. An underframe for cars, the same comprising end portions in the form of castings, each of said castings consisting of a bolster and draft sills, and having a substantially V-shaped marginal portion which connects the ends of said bolster, and an intermediate portion in the form of longitudinal sills connecting said end portions; substantially as described.

14. An underframe for cars, the same comprising end portions in the form of castings, each of said castings consisting of a bolster, diagonal braces, and draft sills, and having



a substantially V-shaped marginal portion which connects the ends of said bolster, and an intermediate portion in the form of longitudinal sills connecting said end portions; substantially as described.

15. An underframe for cars, the same comprising an intermediate portion in the form of side sills, castings connected to the ends of said sills, each of said castings having a substantially V-shaped marginal portion which forms a continuation of the side sills; substantially as described.

16. An underframe for cars, the same comprising an intermediate portion in the form of side sills, castings connected to the ends of said sills, each of said castings including a bolster and having a substantially V-shaped marginal portion which forms a continuation of the side sills; substantially as described.

17. An underframe for cars, the same comprising an intermediate portion in the form of side sills, castings connected to the ends of said sills, each of said castings including draft sills and having a substantially V-shaped marginal portion which forms a continuation of the side sills; substantially as described.

18. An underframe for cars, the same comprising an intermediate portion in the form of side sills, castings connected to the ends of said sills, each of said castings including a bolster and draft sills and having a substantially V-shaped marginal portion which forms a continuation of the side sills; substantially as described.

19. An underframe for cars, the same comprising end portions in the form of castings, each of said castings consisting of a bolster and diagonal side members, and an intermediate portion in the form of longitudinal sills connecting said end portions; substantially as described.

20. An underframe for cars, the same comprising end portions in the form of castings, each of said castings consisting of a bolster, a buffer block and diagonal side members, and an intermediate portion in the form of longitudinal sills connecting said end portions; substantially as described.

21. An underframe for cars, the same comprising end portions in the form of castings, each of said castings consisting of a bolster, a buffer block, draft sills, and diagonal side members, and an intermediate portion in the form of longitudinal sills connecting said end portions; substantially as described.

22. An underframe for cars, the same comprising end portions in the form of castings, each of said castings consisting of a bolster, a buffer block, draft sills, and diagonal side members extending from the bolster to the buffer block, and an intermediate portion in

the form of longitudinal sills connecting said end portions; substantially as described.

23. A railway car having a metallic underframe, said underframe comprising an intermediate portion in the form of a longitudinal sill, and end portions in the form of substantially V-shaped castings connected to the ends of said longitudinal sills, and a wooden frame including longitudinal sills supported by said metallic underframe; substantially as described.

24. A railway car having a metallic underframe, said underframe comprising an intermediate portion in the form of a longitudinal sill, and end portions in the form of castings connected to the ends of said longitudinal sill, each of said castings constituting a bolster and having a substantially V-shaped marginal portion which connects the ends of said bolster, and a wooden frame including longitudinal sills supported by said underframe; substantially as described.

25. A railway car having a metallic underframe, said underframe comprising an intermediate portion in the form of side sills, castings connected to the ends of said sills, each of said castings having a substantially V-shaped marginal portion which forms a continuation of the side sills, and a wooden underframe including longitudinal sills supported by said metallic underframe; substantially as described.

26. A railway car having a metallic underframe, said underframe comprising end portions in the form of castings, each of said castings consisting of a bolster, a buffer block, and diagonal side members, and a wooden underframe including longitudinal sills which extend beyond said diagonal members supported by said metallic underframe; substantially as described.

27. A railway car having a metallic underframe, said underframe comprising end portions in the form of castings, each of said castings consisting of a bolster, draft sills, a buffer block, and diagonal side members, and a wooden underframe including longitudinal sills which extend beyond said diagonal members supported by said metallic underframe; substantially as described.

28. As a new article of manufacture, an end casting for car underframes, said casting comprising a bolster and having a substantially V-shaped marginal portion which connects the ends of said bolster; substantially as described.

29. As a new article of manufacture, an end casting for car underframes, said casting comprising a bolster and draft sills and having a substantially V-shaped marginal portion which connects the ends of said bolster; substantially as described.

30. As a new article of manufacture, an



end casting for car underframes, said casting comprising a bolster, draft sills and a buffer block and having a substantially V-shaped marginal portion which connects the ends of  
5 said bolster; substantially as described.

31. As a new article of manufacture, an end casting for car underframes, said casting comprising a bolster, a buffer block, and diagonal side members connecting said bol-  
10 ster and buffer block; substantially as described.

32. As a new article of manufacture, an

end casting for car underframes, said casting comprising draft sills, a bolster, a buffer block, and diagonal side members connecting  
15 said bolster and buffer block; substantially as described.

In testimony whereof, I hereunto affix my signature in the presence of two witnesses,  
this twenty-ninth day of November, 1907. 20

CHARLES S. SHALLENBERGER.

Witnesses:

CORA BADGER,

A. J. McCAULEY.