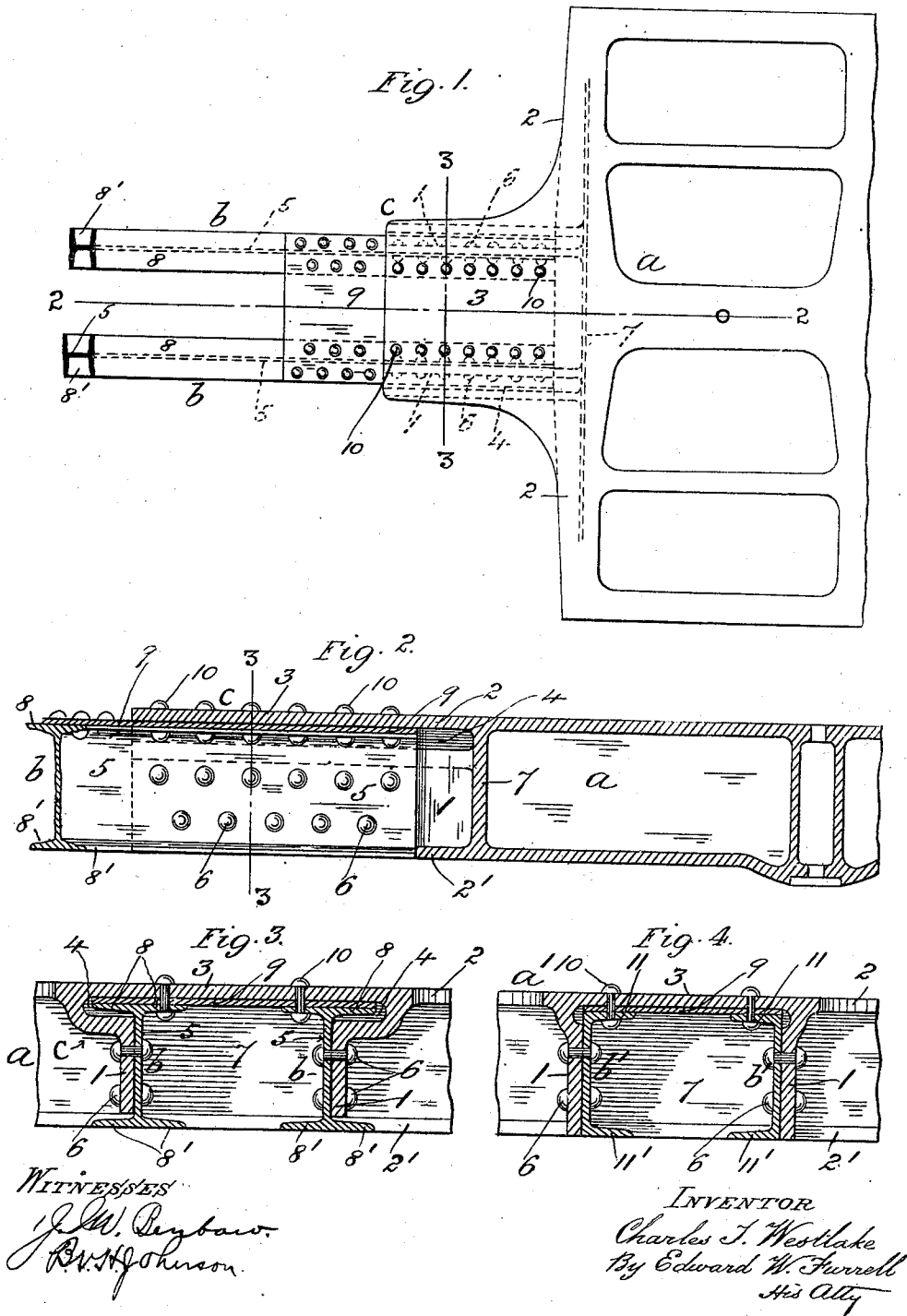


C. T. WESTLAKE.
CAR UNDERFRAME.
APPLICATION FILED JULY 11, 1910.

995,934.

Patented June 20, 1911.



UNITED STATES PATENT OFFICE.

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CAR-UNDERFRAME.

995,934.

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To all whom it may concern:

Be it known that I, CHARLES T. WESTLAKE, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented a new and useful Improvement in Car-Underframes, of which the following is a specification.

My invention relates particularly to that class of metallic car underframe in which the longitudinal center-sills are intermediate to, and terminate at the rear sides of the body-bolsters, whether single or double, having rearwardly projecting members to which the end portions of the said sills are attached, such as shown in the United States Letters Patent relating to car underframes, Numbers 778,973, 1905, 889,234, 1908, and 936,159, 1909: and my invention has for its object to provide improved means for fixing the said parts together, whereby greater rigidity thereat is obtained and resistance of the underframe to end shock correspondingly increased.

The structure herein shown and described is an improvement on the structure shown and described in applications for United States Letters Patent filed by me July 1, 1910 Serial No. 569,886 and July 5, 1910, Serial No. 570,448, and one of the principal features of my present invention is to provide grooves or pockets at the corners of the box like structure projecting rearward from the body bolster, and which grooves or pockets accommodate the inwardly projecting flanges of the center sills which are attached to the box like structure.

My invention consists in features of novelty as hereinafter described and claimed, reference being had to the accompanying drawing forming part of this specification, whereon,

Figure 1, is a top plan view of one of the body-bolsters and combined end portions of the two opposite longitudinal center-sills of a metallic car underframe constructed and fixed together according to my invention; Fig. 2, a vertical longitudinal section thereof to enlarged scale on line 2, 2, in Fig. 1; Fig. 3, a vertical transverse section thereof to enlarged scale on line 3, 3, in Fig. 1, and Fig. 4, a similar view to Fig. 3, showing an alternative shape of the center-sills.

Like letters and numerals of reference denote like parts in all the figures.

a represents the body-bolster (broken away)

which in the present case is preferably double body, and composed of cast steel integral throughout, and *b* the corresponding end portions of the two opposite longitudinal center-sills of the underframe which are preferably, as shown in Figs. 1, 2, and 3, I-shaped in cross section and either of rolled steel in one piece respectively, or built up of plates, angles, or other shapes riveted together.

According to my invention, the body-bolster *a*, which may be of any suitable configuration, is formed with preferably, two opposite rearwardly projecting upright side members or webs 1, of suitable height corresponding in the present case approximately to the depth between the top and bottom flanges 2, 2', respectively, of the body-bolster *a*, and a horizontal top member 3 over, and at right angles to the side members 1, in the plane of the top flange 2 of the body-bolster *a*, the side members 1 having their top longitudinal edge portions integrally united to the corresponding edge portions of the top member 3 so as to form therewith a rearward projection *c* from the bolster *a* channel-shaped in cross section and open at the bottom, and having internal longitudinal top corner pockets or recesses 4 for the purpose hereinafter particularly specified.

In the attachment of the I-shaped center-sills *b* (Figs. 1, 2, and 3) to the body-bolster *a* as above described, the end portion of each sill *b* is inserted within the projection *c* with its web 5 against the inner face of the corresponding upright side member 1, to which it is fixed by rivets 6, the end of the web 5 being approximate to the web 7 of the bolster *a*, and the ends of the top and bottom flanges 8, 8', respectively, of the center-sills *b* at, or approximate to the rear edges of the top and bottom flanges (or equivalent members) 2, 2', of the bolster *a*, while the end portions of the outer top and bottom flanges 8, 8', of the sills *b* adjacent to their said ends and inclosed by the projection *c*, lie within and along the pockets or recesses 4, beneath the top member 3 of the projection *c*, in which position of the parts, a plate 9 adapted to span and cover the end portions of the center-sills *b* at the top, is interposed between the latter and the top member 3; the top flanges 8 of the sills *b* the plate 9, and the top member 3,

which in their assembled position bear against each other, being rigidly fixed together by rivets 10.

In Fig. 4, channel-shaped center-sills *b'* 5 having their top and bottom flanges 11, 11', arranged inward, are substituted for the I-shaped sills *b* previously described, and the pockets or recesses 4 eliminated, but otherwise the construction is similar to that shown 10 in Figs. 1, 2, and 3, and needs no further description.

A great advantage of my invention is that by forming the longitudinal corner pockets 4 in the projection *c* of the bolster *a* so as 15 to clear the outer top flanges 8 of the sills *b*, and fixing the latter by their webs 5, within, and to the walls of the projection *c*, combined with the top plate 9 interposed between the sills *b* and the top horizontal 20 member 3, the difficulty of adapting the projection *c* to the contour of the outer flanges 8 is obviated and a rigid connection of the sills *b* to the body-bolster *a* insured.

What I claim as my invention and desire 25 to secure by Letters Patent is:—

1. The combination of a bolster having an integral flat plate, inwardly projecting shelf,

flanged center sills arranged under said shelf, and a plate interposed between said center sills and said shelf, said plate extending inwardly beyond the shelf, said 30 parts being connected together by rivets.

2. The combination of a bolster having an integral box-like extension, flanged center sills arranged within said box-like extension 35 and whose webs are riveted to the vertical walls thereof, and a plate interposed between said sills and the top wall of said extension, said plate being secured to said extension and said sills by rivets. 40

3. The combination of a bolster having a box-like extension grooved to receive the flanges of the center sills, center sills arranged within said extension and whose webs are secured to the side walls thereof, 45 and a plate interposed between the sills and the top wall of the extension, said plate being extended into the grooves and riveted to said top wall and to the top flanges of said center sills.

CHARLES T. WESTLAKE.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
