C. T. WESTLAKE.

CAR UNDERFRAME.

APPLICATION FILED JULY 1, 1910.

1,012,180.

Patented Dec. 19, 1911.

Fig. 1.

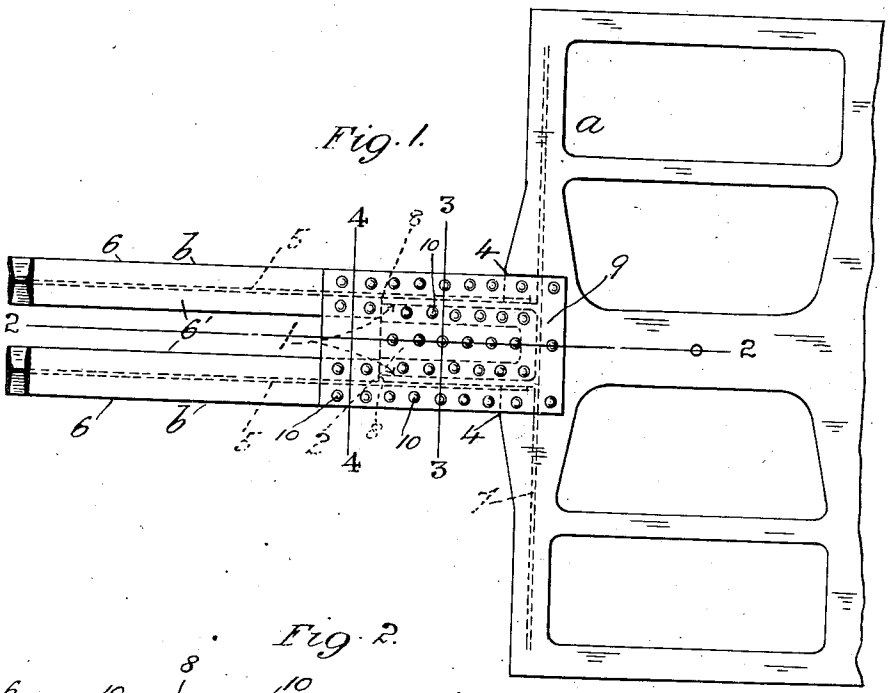


Fig. 2.

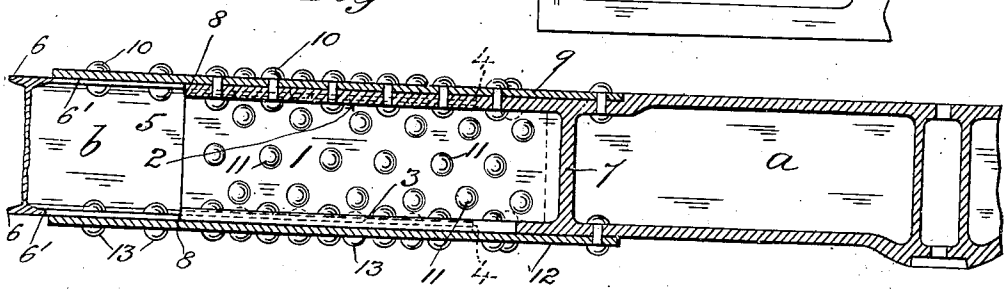


Fig. 3.

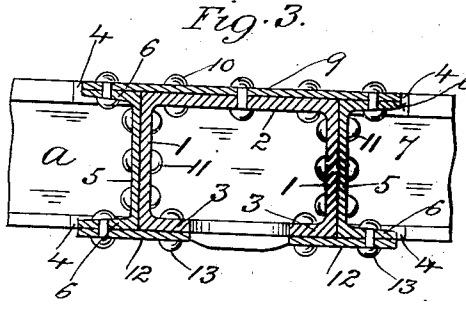
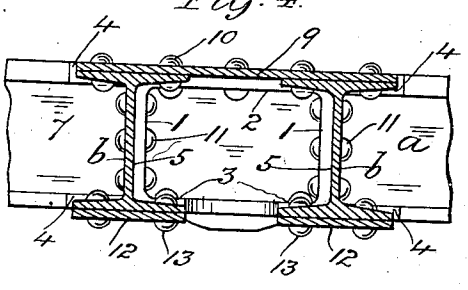


Fig. 4.



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UNITED STATES PATENT OFFICE.

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CAR-UNDERFRAME.

1,012,180. Specification of Letters Patent. Patented Dec. 19, 1911.

Application filed July 1, 1910. Serial No. 569,886.

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.

It 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 to each other according to my invention; Fig. 2, a vertical longitudinal section thereof to enlarged scale, on line 2, 2, in Fig. 1, and Figs. 3 and 4, vertical transverse sections thereof to enlarged scale, on lines 3, 3, and 4, 4, respectively, in Fig. 1.

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, 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 members or webs 1, corresponding in height to the depth of the sills *b*, one on each side of the longitudinal center of the underframe, a horizontal top member 2 intermediate and at right angles to the side members 1, and with preferably, (or not) a horizontal bottom member 3 at right angles and adjacent to each side member 1, the members 1, 2, and 3, being either integrally united as shown, or separate, as found most desirable.

Projecting laterally outward from each side member 1 at right angles thereto and at a suitable distance from its outer end, and forming rearwardly projecting continuations of the top and bottom rear members respectively, of the bolster *a*, is a shoulder 4 corresponding in extent, or thereabout, to the thickness of the web 5 plus the width of the outer flange 6 of the center sills *b*, as hereinafter more particularly referred to.

In the attachment of the I-shaped center-sills *b* to the body-bolster *a* as above constructed, the web 5 of each sill *b* is laid against the outer face of the corresponding upright member 1 with the end of its web 5 terminating at, or approximate to the web 7 of the bolster *a*, and the ends of the top and bottom flanges 6 at, or approximate to the shoulders 4, while the ends of the inner flanges 6′ terminate short of the ends of the web 5 and outer flanges 6, at or approximate to the outer ends of the members 1, 2, and 3, in which position of the parts the top horizontal member 2, and flanges 6 and 6′ of the sills *b*, are covered by a plate 9 which extends longitudinally between and beyond the ends 4 and 8 of the flanges 6 and 6′, the plate 9 being rigidly fixed to the said member 2 and flanges by rivets 10, and the webs 5 of the sills *b* to the said upright members 1 by rivets 11. Furthermore, the bottom horizontal members 3 and outer and inner flanges 6 and 6′ of the sills *b* are covered by an underlying plate 12 which extends longitudinally between and beyond the ends 4 and 8 of the flanges 6 and 6′ and is rigidly fixed to the latter and to the members 3 by rivets 13, the top and bottom plates 9 and 12 compensating for the omitted end portions of the inner flanges 6′ and thereby rendering the sills *b* thereat equal in strength to their normal section.

It is obvious that in the case of the center-sills being channel-shaped throughout with their flanges outward, the bottom horizontal members 3 may be dispensed with and the

bottom cover-plate 12 used, or not as desired.

By my invention the longitudinal sills are rigidly held and prevented from horizontal and vertical displacement when subjected to end shock on the underframe.

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

1. In a car underframe the combination of a bolster having integral inwardly extending projections and flanged center sills secured to said inwardly extending projections, certain of the flanges of said center sills being cut away to accommodate said projections.

2. The combination of a body bolster having inwardly extending projecting parts, I-shaped center sills riveted to said inwardly projecting parts, the inwardly presented flanges of said I-shaped center sill members being cut away short of said projections, and a plate riveted to the flanges of said center sills.

3. The combination of a bolster having a box-like inwardly extending projection, I-beams riveted to the outer faces of said projection and whose inwardly presented flanges are cut away short of said projection and top and bottom plates extending beyond said box-like projection where they are riveted to both flanges of said I-beams, said plates being also riveted to the outwardly extending flanges of the I-beams and to said box-like structure.

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