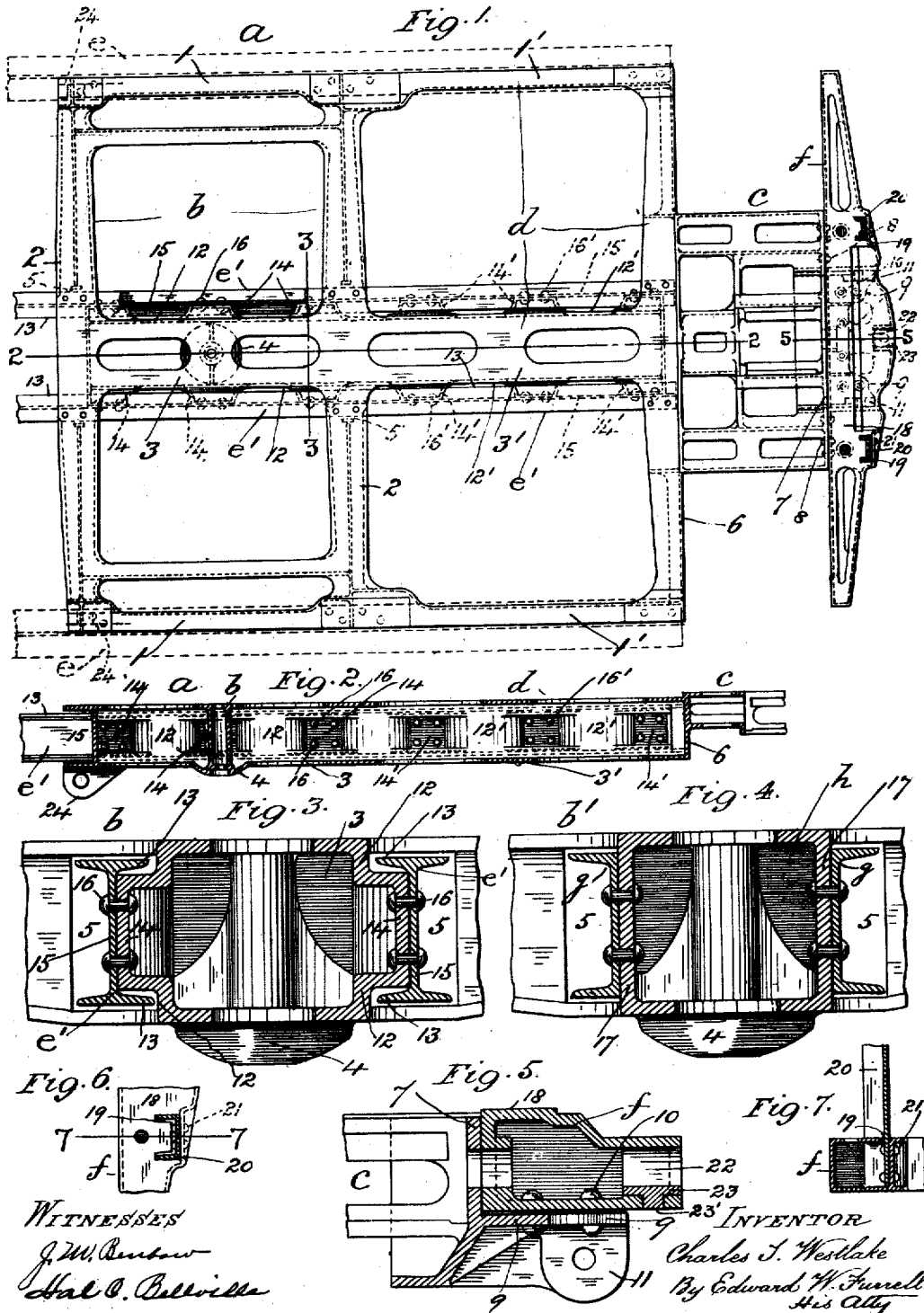


C. T. WESTLAKE.
CAR UNDERFRAME.
APPLICATION FILED FEB. 13, 1909.

945,830.

Patented Jan. 11, 1910.



WITNESSES

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CAR-UNDERFRAME.

945,830.

Specification of Letters Patent.

Patented Jan. 11, 1910.

Application filed February 13, 1909. Serial No. 477,615.

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 body-bolster and platform with their intermediate connecting framework are composed preferably, of cast metal integral throughout, and my invention has for its object principally to increase the strength and rigidity of the underframe at the attachment of its said parts to the middle longitudinal sills of the frame and to insure a firm support for the buffer-beam at its attachment to the platform.

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 (partly broken away) of one end portion of my improved metallic car underframe; Fig. 2, a vertical longitudinal section therethrough on line 2, 2, in Fig. 1; Fig. 3, a vertical transverse section to enlarged scale through the body-bolster (broken away) and its means of attachment to the I-shaped middle longitudinal sills on line 3, 3, in Fig. 1; Fig. 4, a similar view of the bolster to Fig. 3, and its means of attachment to channel, in lieu of I-shaped middle longitudinal sills; Fig. 5, a vertical longitudinal section to enlarged scale through the buffer-beam and front portion of the platform on line 5, 5, in Fig. 1 showing my improved means for supporting the said beam thereat, Fig. 6, a top plan view to enlarged scale of a portion of the buffer-beam as seen in Fig. 1, showing means for fixing one of the upright members of the car frame thereto, and Fig. 7, a vertical transverse section thereof on line 7, 7, in Fig. 6.

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

a represents one end portion of my improved metallic car underframe which comprises the body-bolster (preferably double body, but may be single if desired) *b*, the passenger platform *c*, and a framework *d* intermediate to and uniting the body-bolster *b* and platform *c* together, the said parts be-

ing preferably, composed of cast steel integral throughout, as described in the United States patent granted to Clarence H. Howard, November 8, 1904, Number 774,474, for improvement in railroad cars.

The body-bolster *b* in the present case is preferably rectangular-shaped in top plan, having two opposite suitably shaped end members 1 arranged longitudinally with and fixed to the side longitudinal sills *e* (indicated by dotted lines in Fig. 1) of the underframe *a*, two opposite suitably shaped side members 2 arranged transversely to the said sills and uniting the end members 1 together, and a middle, preferably box-shaped member 3, parallel to the end members 1 and united at its ends to the side members 2, the middle member 3 being arranged longitudinally with and intermediate to the middle longitudinal sills *e'* of the underframe *a* and adapted to be fixed laterally thereto as hereinafter more particularly described, and the member 3 having the center-plate 4 preferably integral therewith at its central portion as shown; while transversely through the side members 2 respectively, at each side of the middle member 3 is formed a suitable opening 5 for the passage therethrough of the middle longitudinal sill *e'*.

The framework *d* connecting the body-bolster *b* to the platform *c* consists preferably, of two opposite members 1' and a middle box-shaped member 3', which are arranged longitudinally with the sills *e'* and form practically, continuations of the end members 1 and middle box-shaped member 3 respectively, of the body-bolster *b*, the members 1', 3', being united together at their front ends by the transverse member 6 forming the rear member of the platform *c* which may be of any suitable design as to the disposition and shape of its component members and preferably formed with a central opening through its front portion, and otherwise adapted thereat for receiving a suitable draft-rigging (not shown) as in the said patent.

To the upright front member 7 of the platform *c* (Figs. 1 and 5) is preferably attached the buffer-beam *f* by rivets 8, or otherwise, the member 7 at a suitable depth from the top having a forwardly projecting horizontally arranged flange 9 which extends preferably, partway along the mem-

ber 7 for a suitable distance on each side of the longitudinal center of the underframe *a*, and is adapted to bear against the underside of and support the buffer-beam *f*, which is preferably secured thereto by rivets 10, the flange 9 having at each end a depending lug 11 integral therewith and perforated for coupling the safety coupling chain (not shown) thereto.

For attaching the body-bolster *b* to the middle longitudinal sills *e'*, when the latter are I-shaped in cross section as shown in Figs. 1, 2, and 3, the opposite upright side walls 12 of the box-shaped middle member 3, which are in proximity to, but preferably clear of the inner flanges 13 of the sills *e'*, are formed longitudinally at a suitable distance apart, with a series of outward projections 14 which are adapted at their outer faces to bear against the webs 15 of the sills *e'* to which they are rigidly fixed by rivets 16 (bolts or otherwise), the projections 14 in the present case forming preferably, the sides or walls of correspondingly shaped pockets opening laterally from the inside of the member 3. In like manner, the upright side walls 12' of the middle member 3' (or continuations of the side walls 12 of the bolster member 3) connecting the body-bolster *b* to the platform *c* and forming part of the framework *d*, are preferably formed with projections 14' similar to the projections 14, and adapted to bear against the webs 15 of the sills *e'* to which they are fixed by rivets 16'. By this construction an extended lateral bearing of the body-bolster *b* and its connecting framework *d* with the platform *c* against the middle longitudinal sills *e'* of the underframe *a*, and a rigid connection thereof to the said sills are obtained, and the resistance of the underframe *a* thereat to abnormal lateral stress and end shock increased.

I do not limit myself to the use of the projections 14, 14', along the combined length of the body-bolster *b* and connecting framework *d*, as they may be used along the body-bolster *b* only, and vice versa, without departure from the principle of my invention.

In Fig. 4, where the middle longitudinal sills *g* are channel-shaped in lieu of I-beams as in Figs. 1, 2, and 3, the projections 14, 14', are omitted and the upright side walls 17 of the middle member *h* of the body-bolster *b'* riveted at intervals longitudinally directly to the sill *g*, and so in other cases, the use or not of the projections 14, 14', being determined by the shape of the middle longitudinal sills, the object to be attained in every case being to adapt the body-bolster and connecting framework (or either part) to bear laterally at longitudinal intervals against and to be rigidly fixed thereat to the middle longitudinal sills.

Through the top member 18 of the preferably box-shaped buffer-beam *f*, at a suitable distance on each side of the longitudinal center of the underframe *a*, is formed an opening 19, which is adapted for the passage therethrough of a channel-shaped (or other suitably shaped) upright member 20 of the car frame, the web of the bottom portion of the member 20 within the body of the buffer-beam *f* bearing against the front wall of the said body to which it is rigidly fixed by rivets 21, thereby insuring protection to the upright member 20 at its attachment to the buffer-beam *f* against end shock, and removing the heads of its rivets 21 from interference with the wood or other finishing.

Through the front portion of the buffer-beam *f* is a central opening 22 for the passage and play of the buffer-stem (not shown) which is adapted to bear at the bottom on a wearing-plate 23 removably placed on the floor of the opening 22, the plate 23 being held from vertical displacement by the buffer-stem and from horizontal movement by a projection 23' on its underside, which engages in a corresponding opening in the said floor, as shown particularly in Fig. 5.

It is here noted that, in the case of a car underframe having truss-rods, the body-bolster *b* is formed therefor on its underside with lugs 24 which are preferably integral therewith, as shown in Figs. 1 and 2, or may be of separate construction and attached thereto as found most suitable.

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

1. In a car underframe of the character described, the combination with the longitudinal sills, of a double body-bolster having a member arranged longitudinally with, and adapted to bear laterally against and to be rigidly fixed thereat to, the middle longitudinal sills, substantially as described.

2. In a car underframe of the character described, the combination with the longitudinal sills, of a body-bolster and a framework extending therefrom to the end of the car, or thereabout, the said bolster having a member arranged longitudinally with and adapted to bear laterally against, and to be rigidly fixed thereat to the middle longitudinal sills, substantially as described.

3. In a car underframe of the character described, the combination with the longitudinal sills, of a body-bolster, a passenger platform, and a framework adapted to connect the said bolster and platform together, the said bolster having a member arranged longitudinally with and adapted to bear laterally against and to be rigidly fixed thereat to the middle longitudinal sills, substantially as described.

4. In a car underframe of the character described, the combination with the longitudinal sills, of a body-bolster, and a frame-

work extending therefrom to the end of the car, or thereabout, the said bolster and framework having a member arranged longitudinally with, and adapted to bear laterally at intervals against and to be rigidly fixed thereto to the middle longitudinal sills, substantially as described.

5. In a car underframe of the character described, the combination with the longitudinal sills, of a body-bolster, a passenger platform, and a framework adapted to connect the said bolster and platform together, the said bolster and framework having a member adapted to bear laterally at intervals against and to be rigidly fixed thereto to the middle longitudinal sills, substantially as described.

6. In a car underframe of the character described, the combination with the longitudinal sills, of a body-bolster, a passenger platform and a framework adapted to connect the said bolster to the platform, the said bolster and framework having a member arranged longitudinally with and intermediate to the middle longitudinal sills, the said member having lateral outward projections at intervals along the same adapted to bear against the said middle sills, and means for fixing the said projections to the said middle sills, substantially as described.

7. In a car underframe of the character described, the combination with the longitudinal sills, of a body-bolster, and a framework extending therefrom to the end of the car or thereabout, the said framework having a member arranged longitudinally with and intermediate to the middle longitudinal

sills, the said member having lateral outward projections at intervals along the same adapted to bear against the said middle sills, and means for fixing the said projections to the said middle sills, substantially as described.

8. In a car underframe of the character described, the combination with the buffer-beam having a suitable pocket, of an upright member of the car frame adapted to be inserted at its lower part within the pocket, and means for fixing the said member to a wall of the pocket, substantially as described.

9. In a car underframe of the character described, the combination with the longitudinal sills, of a body-bolster having a member arranged longitudinally with, and adapted to bear laterally against the middle longitudinal sills, means for fixing the said member thereto to the said middle sills, and lugs on the underside of the body-bolster for the connection of the truss-rods thereto, substantially as described.

10. In a car underframe of the character described, the combination of a body-bolster, a passenger platform, and a connecting framework, all integral, the said platform having a projecting member integral therewith at its front end adapted to underlie and support a buffer-beam in its attached position to the said end, substantially as described.

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Witnesses:

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