

C. H. HOWARD & C. T. WESTLAKE.

CAR UNDERFRAME.

APPLICATION FILED JULY 6, 1909. RENEWED APR. 8, 1912.

1,058,058.

Patented Apr. 8, 1913.

2 SHEETS—SHEET 1.

Fig. 1.

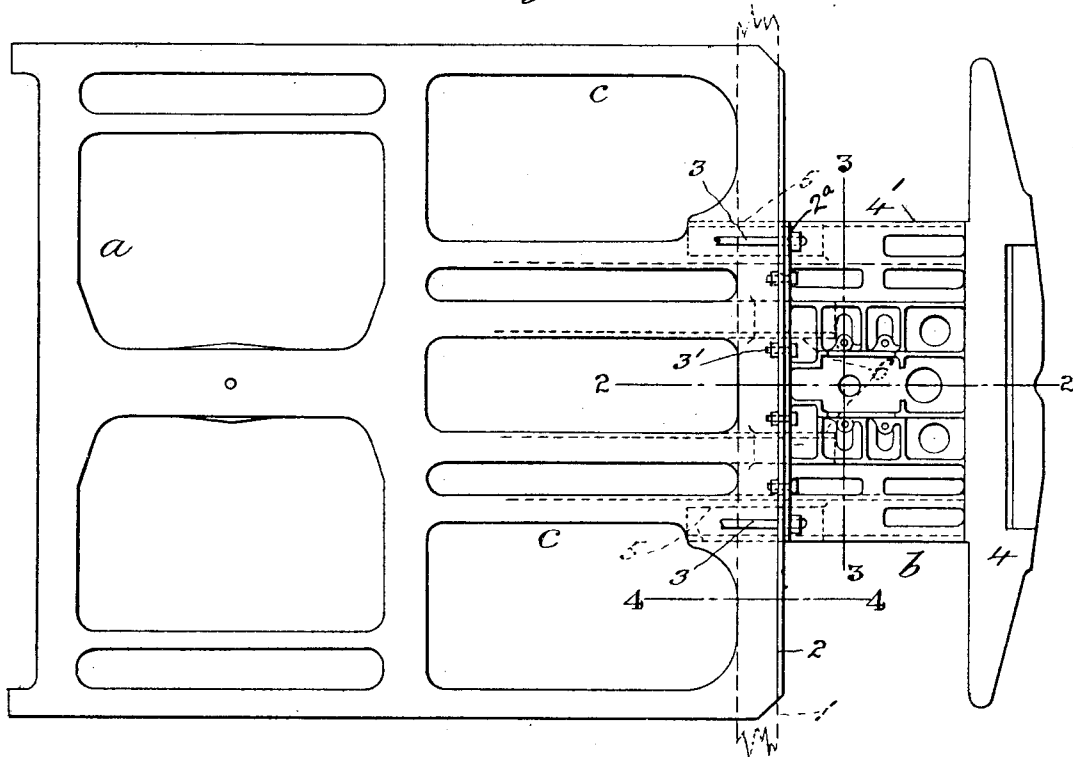


Fig. 2.

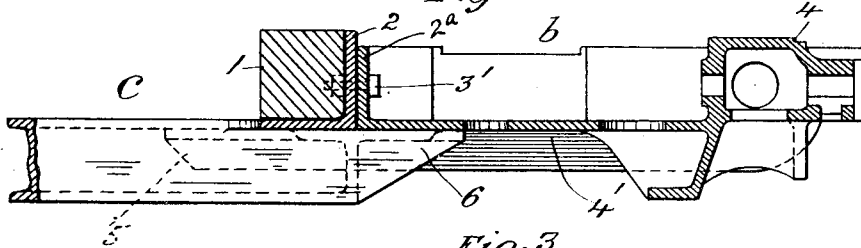


Fig. 3.

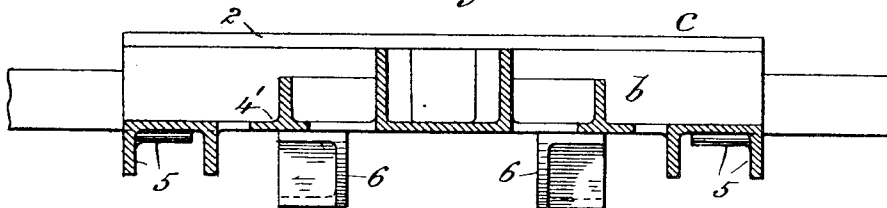
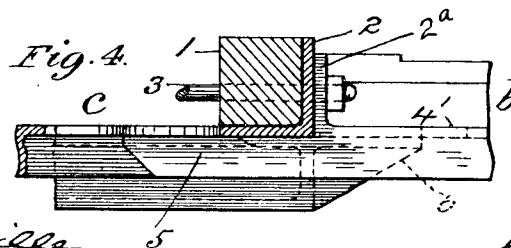


Fig. 4.



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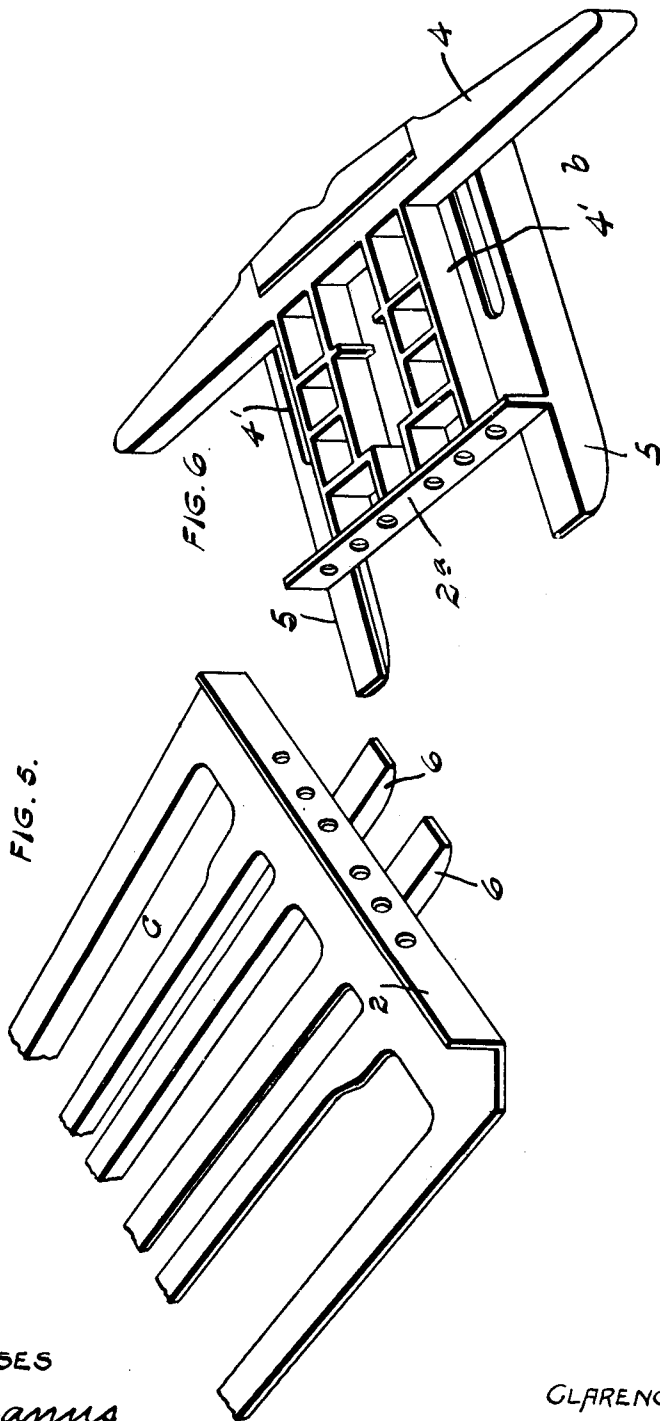
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2 SHEETS—SHEET 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

CLARENCE H. HOWARD AND CHARLES T. WESTLAKE, OF ST. LOUIS, MISSOURI,
ASSIGNORS TO DOUBLE BODY BOLSTER COMPANY, OF ST. LOUIS, MISSOURI, A
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CAR-UNDERFRAME.

1,058,058.

Specification of Letters Patent.

Patented Apr: 8, 1913.

Application filed July 6, 1909, Serial No. 506,192. Renewed April 8, 1912. Serial No. 689,406.

To all whom it may concern:

Be it known that we, CLARENCE H. HOWARD and CHARLES T. WESTLAKE, citizens 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.

Our invention relates particularly to a metallic car underframe having a composite body-bolster, platform, and intermediate connecting frame, and has for its object, in the case where the platform is separately constructed and fixed at its rear end to the front end of the said connecting frame (or suitable equivalent end member of the car body), to provide means for rigidly supporting and fixing, and interlocking the platform with the connecting frame, and to obtain a strong and durable structure.

The 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 a composite double body-bolster, platform, and intermediate connecting frame for a car underframe constructed according to our invention; Fig. 2, a vertical longitudinal section to enlarged scale, through the platform and front end portion of the connecting frame on line 2, 2, in Fig. 1; Fig. 3, a vertical transverse section to enlarged scale through the platform on line 3, 3, in Fig. 1, and Fig. 4, a vertical longitudinal section to enlarged scale through the platform (broken away) and the front end portion of the connecting frame, on line 4, 4, in Fig. 1. Fig. 5 is a detail view of the end portion of the underframe, and Fig. 6 is a detail view of the platform casting.

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

a, b, c, represent a composite metallic body-bolster, platform, and intermediate connecting end frame respectively, forming parts of our improved car underframe, the body-bolster *a* in the present case being double (but may be single) and of any suitable configuration and cross section of its component members according to the arrangement of the wood sills (not shown) to which the composite structure is applied.

From the front side of the bolster *a*, and in the present case integral therewith, the connecting frame *c* extends to the adjacent end of the car beneath the end wood sill 1 where it is formed with an upright flange or suitable transverse member 2 which bears against the outer face of the sill 1 and to which is fixed a vertically disposed transversely extending flange 2^a formed integral with the rear portion of the platform *b*. This flange which extends the entire width of the platform *b* is fixed to the transverse member 2 by the truss-rods 3, and by intermediate bolts (or rivets) 3'. The platform *b* is of any suitable construction, and either in the form of a wide vestibule platform having the front portion 4 and rear portion 4' as shown, or, in the case of a blind end, mail, baggage, or analogous car, in the form of a platform consisting of the front portion 4 only.

The platform *b* is formed or provided at the bottom and preferably at each side, with a bracket or cantaliver element 5 which extends for a suitable distance rearward from the rear end of the rear portion 4' (or 4 as the case may be) of the platform *b*, and is adapted to bear in the assembled position of the latter, against the underside of the connecting frame *c*; while from the bottom of the connecting frame *c* intermediate to the brackets 5, project two or more (or only one if desired) brackets or cantaliver elements 6 at a suitable distance apart, which in the assembled position of the parts extend beneath and are adapted to bear against the underside of the platform *b*, whereby, when the platform *b* is fixed to the connecting frame *c* by the bolts 3 and 3', the brackets 5 and 6 will coöperate to interlock the parts *b* and *c* together without the use of supporting platform beams, or in other words, the platform *b* will be self-supported and adapted to resist fracture at its junction with the connecting end frame *c* from downward stress due to sudden jar or abnormal pressure on the front portion 4 of the platform *b*; moreover, by eliminating the platform supporting beams the construction of the underframe *a, b, c*, is simplified and a more rigid connection of the platform *b* with the connecting frame *c* obtained.

The brackets 5 and 6 may be of any suitable shape in cross section and either formed

integral with, or separately constructed from, and fixed to the platform *b* and connecting frame *c* respectively, by bolts or rivets according to the construction of these parts.

We do not limit ourselves to the number or relative spacing of the brackets 5 and 6 of the platform *b* and connecting frame *c* respectively, as shown on the drawing, as they may be varied as desired without departing from the principle of our invention, which is to provide means for interlocking the platform with the framework proper of the car body in addition to the ordinary means of fixing the platform directly thereto by bolts or rivets.

From the above it will be seen that the contiguous ends of the underframe and platform castings are provided with longitudinally disposed extensions, respectively, which are out of alinement, whereby the extensions from the underframe project under and support the platform and the projections from the platform extend under the underframe, thereby interlocking the platform with the underframe, the two vertical flanges abutting against each other and providing means for the passage of fastening devices for securing the platform in position.

What we claim as our invention and desire to secure by Letters Patent is:—

1. In a car underframe, a body bolster having cast integral therewith a frame extending to the end of the car frame or thereabout, a platform adapted to be interlocked with the said frame and a vertically disposed flange extending the entire width of the platform, and which flange is fixed to and bears against the end of the frame extending from the bolster, substantially as described.

2. In a car underframe, a body bolster having cast integral therewith a frame extending to the end of the car frame or thereabout, a platform adapted to be interlocked with the said frame for resisting downward stress and a vertically disposed flange extending the entire width of the platform, and which flange is fixed to and bears against the end of the frame extending from the bolster, substantially as described.

3. In a car underframe of the class described, the combination with the body bolster, platform, and intermediate connecting frame, of a bracket projecting from the platform and the said connecting frame respectively, and cooperating therewith for interlocking the platform with the said connecting frame, an upright flange on the end of the connecting frame, and a corresponding flange formed on the platform and bearing against the flange on the frame.

4. In a car underframe of the class de-

scribed, the combination with the body bolster, platform, and intermediate connecting frame, of a bracket projecting from the platform and the said connecting frame respectively, and cooperating therewith for interlocking the platform with the said connecting frame and engaging flanges formed integral with and extending the entire width of the platform and frame, substantially as described.

5. In a car underframe of the class described, the combination with the platform and a suitable end member of the car body, of a bracket projecting from the platform and the said member respectively, and cooperating therewith for interlocking the platform with the said member, a transversely disposed flange on the end of said member, a corresponding flange on the end of the platform, and means passing through said flanges for fixing the platform to the said member, substantially as described.

6. In a car underframe of the class described, the combination with the body bolster, cast metal platform, and intermediate connecting frame, of brackets projecting from the platform and the said connecting frame respectively, and cooperating therewith for interlocking the platform with the said connecting frame, an upright flange extending transversely the entire width of the end of the connecting frame, a corresponding flange integral with and extending the entire width of the platform and bearing against the first mentioned flange, and means extending through said flanges for fixing the platform to the connecting frame, substantially as described.

7. In a car underframe of the class described, the combination with the body bolster, cast metal platform, and intermediate connecting frame, of a bracket projecting from the platform and the said connecting frame respectively, and cooperating therewith for interlocking the platform with the said connecting frame and vertically disposed transversely extending flanges formed on the end of the connecting frame, and the platform, which flanges bear against one another, substantially as described.

8. In a car underframe of the class described, the combination with a cast metal platform, and a suitable end member of the car body, of a bracket projecting from the platform and the said member respectively, and cooperating therewith for interlocking the platform with the said member and vertically disposed transversely extending flanges formed on the end of the connecting frame, and the platform, which flanges bear against one another, and means passing through said flanges for fixing the platform to the said member, substantially as described.

9. In railway car construction the combi-

nation of an end sill having forwardly extending brackets and a platform frame having rearwardly extending brackets out of alinement with the first mentioned brackets, all of which brackets cooperate with each other and with the end sill and platform frame to interlock said end sill and platform frame.

10. In railway car construction the combination of a cast metal end sill having integral forwardly extending brackets to engage and support the platform frame, a cast metal platform frame having integral rearwardly extending brackets to engage the end sill on its under face, and means for connecting the end sill and platform frame to each other.

11. In railway car construction the combination of a cast metal end sill having integral forwardly extending brackets to engage the under side of a platform frame, and a cast metal platform frame having integral rearwardly extending brackets out of alinement with the end sill brackets to engage the under side of the end sill whereby said parts are interlocked.

12. The combination of an end sill having forwardly extending brackets to engage the under side of a platform frame, said end sill also having a vertical flange, and a platform frame having rearwardly extending brackets to engage the under side of the end sill, said platform frame having a vertical flange to abut against the vertical flange of the end sill, and fastening devices passing through said vertical flanges.

13. In railway car construction, the combination with a cast metal end sill having forwardly extending brackets, of a cast metal platform frame rigidly fixed to said

end sill and having rearwardly extending brackets, all of which brackets cooperate with each other and with the end sill and platform frame to interlock said end sill and platform frame and support the latter from said end sill. 45

14. In railway car construction, the combination with an end sill and a platform frame rigidly fixed to each other and occupying substantially the same horizontal 50 plane, of an extension projecting forwardly from the end sill and arranged beneath the platform frame for supporting the same, and an extension projecting rearwardly from the lower portion of the platform 55 frame beneath the end sill.

15. In a car underframe, an end sill, a skeleton platform, extensions on the end sill which underlie and support the platform, extensions on the platform which underlie the end sill, and means whereby the 60 platform and end sill are rigidly fixed to each other.

16. In a car underframe, the combination with an end sill, of a platform frame, underlying extensions on the meeting edges of said end sill and platform frame, and means whereby said platform frame and end sill are rigidly fixed to each other. 65

17. The combination with an underframe 70 having extensions from its end sill, of a platform frame fixed to the end sill of the underframe and supported upon the extensions, and a buffer beam carried by said platform frame.

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