

A. J. McCAULEY.
CAR UNDERFRAME.
APPLICATION FILED SEPT. 2, 1911.

1,046,826.

Patented Dec. 10, 1912.

2 SHEETS—SHEET 1.

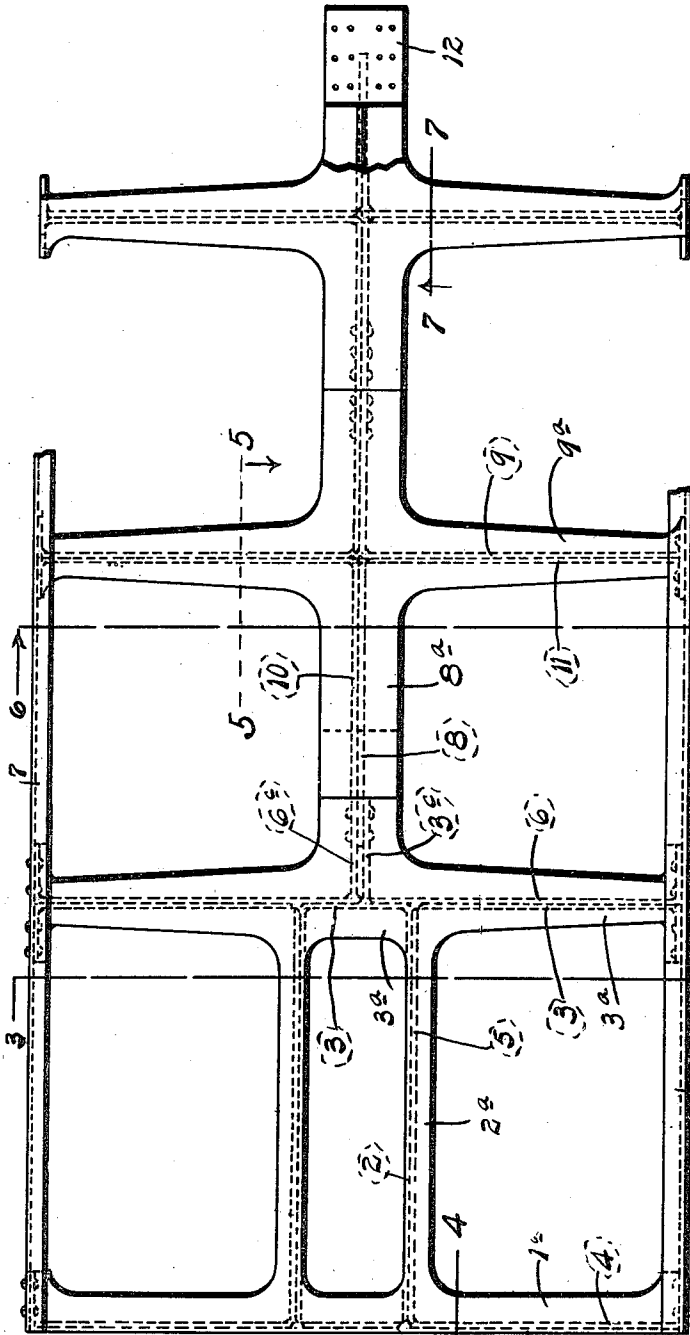


FIG. 1

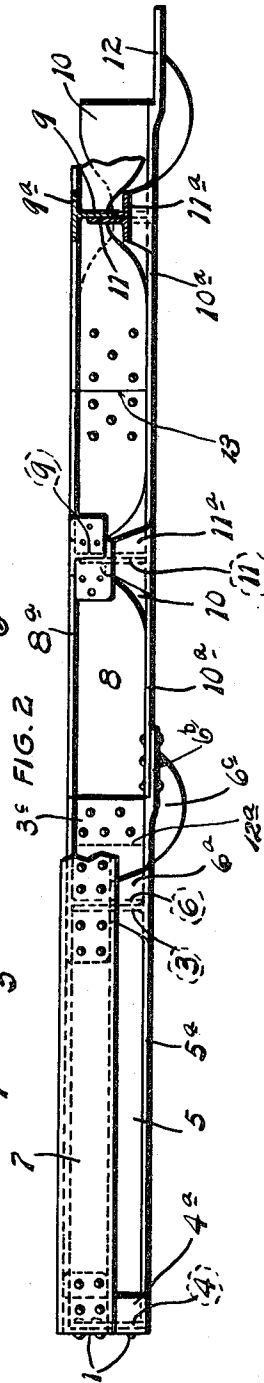


FIG. 2

WITNESSES

Wm. Janus.
F. W. Harrington.

INVENTOR

ALBERT J. McCAULEY

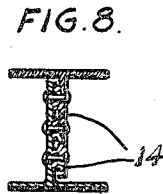
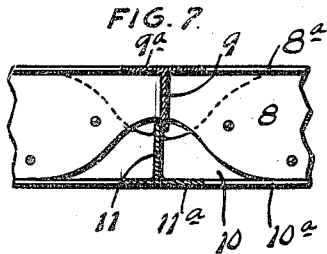
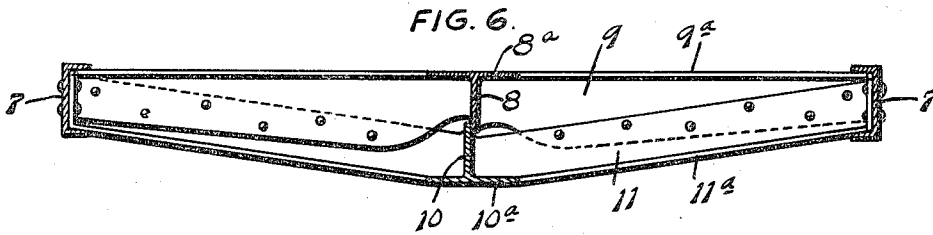
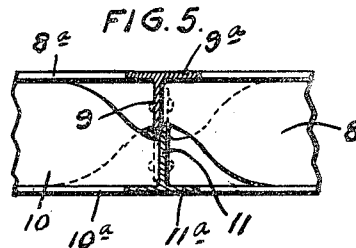
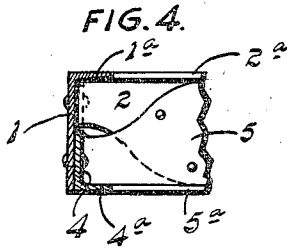
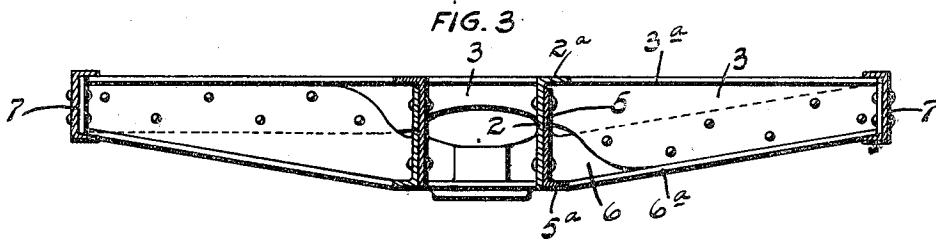
BY *F. R. Brinval* ATT'Y.

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WITNESSES

Wm. James.
E. M. Harrington

INVENTOR

ALBERT J. McCAULEY

BY *F. R. Cornwall* ATT'Y.

UNITED STATES PATENT OFFICE.

ALBERT J. McCAULEY, OF ST. LOUIS, MISSOURI, ASSIGNOR TO DOUBLE BODY BOLSTER COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF NEW JERSEY.

CAR-UNDERFRAME.

1,046,826.

Specification of Letters Patent.

Patented Dec. 10, 1912.

Application filed September 2, 1911. Serial No. 647,445.

To all whom it may concern:

Be it known that I, ALBERT J. McCAULEY, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Car-Underframes, 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 plan view of one end of my improved underframing. Fig. 2 is a vertical sectional view of the same partly in side elevation. Fig. 3 is a sectional view on line 3—3 of Fig. 1. Fig. 4 is a sectional view on line 4—4 of Fig. 1. Fig. 5 is a sectional view on line 5—5 of Fig. 1. Fig. 6 is a sectional view on line 6—6 of Fig. 1. Fig. 7 is a sectional view on line 7—7 of Fig. 1. Fig. 8 is a sectional view showing a modified form of connection.

This invention relates to a new and useful improvement in underframes for cars; the object being to construct an underframe in which the tension and compression members of the several load-carrying elements are integral with vertical juxtaposed webs, the latter being connected together by means of suitable fastening devices.

By making the underframes in the manner above described, it is possible to cast the top and bottom sections without the use of core boxes.

While I have shown my improvement as applicable to an underframe in which the load-bearing members are made up of sections, it is obvious that the division lines between the sections may be located at points other than those shown, and also that, if desired, the top and bottom members may be in one piece and integral throughout, respectively from end to end and side to side of the car.

In the drawing the end sill is shown as consisting of a vertical flange 1 and a top flange 1^a, from which extend the vertical flanges 2 and top flanges 2^a of the draft sills, connected in turn to the vertical flange 3 and the top flange 3^a of the bolster. These parts are preferably integral and constitute the upper or top flanged section of the end of the underframe. The bottom flanged section has a vertical flange 4 juxtaposed to

the flange 1, being preferably riveted thereto and forming a part of the end sill. This flange 4 is strengthened by bottom flange 4^a.

5 indicates the vertical webs of the draft sills juxtaposed to the vertical web 2, to which they are preferably riveted, they having bottom flanges 5^a, as shown in Fig. 3.

6 indicates the vertical web of the bolster juxtaposed to the web 3, and preferably riveted thereto. Web 6 has a bottom flange 6^a which may be formed with the center and side-bearings as usual.

The ends of the end sill and bolster members are preferably formed to receive fastening devices, by which they are respectively connected to side sill members 7, these latter being in the form of commercially rolled channels and extending throughout the length of the car. It is obvious, however, that the side sill members could be integral with the bolster and end sill members and cross-bearing members of the underframe if desired.

The bottom section of the bolster member is preferably provided with an inwardly extending shelf-like projection 6^b, from which extends a vertical web 6^c, slightly spaced apart from a companion web 3^c on the upper section and between which is received vertical web 8 of the center sill member. Web 8 has flanges 8^a and transversely extending vertical webs 9 which have top flanges 9^a extending to the side sills.

10 is the vertical web of the bottom member of the cross-bearing section, which has flanges 10^a riveted to the shelf-like extension 6^b, and vertical webs 11 juxtaposed to the webs 9 and preferably riveted thereto. Webs 11 have bottom flanges 11^a, as shown in Fig. 6. The vertical webs constituting the center sill members are preferably crossed over at the intersection of the cross bearing, as shown in Fig. 5, as are also the webs 9 and 11 which constitute the cross-bearing member. By virtue of this construction, when the parts are assembled and the vertical webs riveted together, they will be interlocked. Fig. 6 shows this crossing over of the webs 9 and 11.

At the extremities of the sections carrying the center sill and cross-bearing members, the vertical webs of the center sill portion preferably extend beyond the horizontal extremities, so as to form splice plates, as shown at 12^a, Fig. 2, whereby the parts are

connected together, and, if desired, horizontal shelf-like extensions 12 may be provided on the top or bottom flanges, or both, for the purpose of strengthening the connection.

In Fig. 4, I have shown the end sill vertical webs 1 and 4 as integral with the draft sills of the underframe.

In Fig. 7, I have shown the vertical webs 8 and 10 of the center sill on the top and bottom members respectively as being in alignment, that is, not crossed over.

In Fig. 8, I have shown the connection between the vertical webs as being produced by rivets passing through interposed washers 14; the object of these washers being to provide points of contact around the rivet openings only, thus leaving a space between the major areas of the contiguous faces so that irregularities on the surfaces of the castings at this point may be compensated for.

What I claim is:

1. A car underframe whose principal load-carrying members comprise juxtaposed transverse and longitudinal integral webs connected together and having integral tension and compression flanges respectively.

2. A car underframe composed of top and bottom members, each of which has transverse and longitudinal vertical webs juxtaposed with relation to their companion parts; the webs of said members having flanges at their upper and lower edges respectively.

3. A car underframe comprising top and bottom sectional members, each having transverse and longitudinal vertical webs and transverse and longitudinal flanges carrying said webs, the vertical webs of the two sections being juxtaposed.

4. A car underframe composed of top and bottom members, each of which has vertical webs juxtaposed to the vertical webs of the other member; said webs interlocking with each other and being connected together to form draft sills and transverse members.

5. A car underframe composed of top and bottom members, each of which has vertical webs juxtaposed to the webs of the other member; said webs being arranged at right angles to each other, interlocked and connected together.

6. A car underframe comprising top and bottom sections, T shaped in cross section and having longitudinal and transverse members with the vertical webs of said members juxtaposed to each other to form the draft members and bolster members.

7. A part of a car underframe composed of companion castings comprising transverse and longitudinal members, T shaped in cross section and having their vertical webs juxtaposed and connected together.

8. A part of a car underframe composed of companion top and bottom members, T shaped in cross section and whose vertical webs are juxtaposed and connected together; said webs being longitudinally and transversely disposed.

9. A car underframe comprising top and bottom members whose vertical webs are juxtaposed and connected together to form draft sills and cross bearings; said underframe being made up in sections and having shelf extensions extending from one section under another.

10. A car underframe comprising top and bottom members, T shaped in cross section and whose vertical webs are juxtaposed and connected together; said webs being disposed longitudinally and transversely to form draft members and members for supporting side sills and interlocked with each other.

11. The car underframing having an end sill composed of top and bottom companion members formed with vertical webs which are juxtaposed and connected together to form both the face of the end sill and members extending at right angles therefrom, to provide attaching faces for draft rigging.

12. A car underframing having draft sills comprising upper and lower members having vertical webs which are juxtaposed and connected together, and which have laterally extending upper and lower members forming supports for side sills.

13. A car underframing having a bolster member composed of upper and lower members having vertical webs juxtaposed and connected together to form said bolster and part of the draft members.

14. A car underframing having a bolster member consisting of two oppositely-arranged T shaped members having extensions forming portions of longitudinal members and whose vertical webs are juxtaposed and connected together.

15. A car underframing having a longitudinal member, a cross-bearer formed on portions of said longitudinal member, said cross-bearer consisting of top and bottom T shaped members oppositely-disposed and having their vertical webs connected together.

16. A car underframing whose transverse and longitudinal load-carrying parts consist of two oppositely-disposed T shaped members whose vertical webs are connected together.

17. A car underframe whose main load-carrying parts consist of two oppositely-disposed T shaped members whose vertical webs are juxtaposed and connected together to form longitudinal and transverse members.

18. A car underframe whose draft and

transverse members consist of two oppositely-disposed T shaped members whose vertical webs are spaced apart and fastening devices passing through the spacing
5 medium.

19. A car underframe consisting of an end sill, draft sill, bolsters and cross-bearers, all of said parts comprising two oppositely-disposed T shaped members whose vertical
10 webs are connected together, and side sills

connecting the extremities of the transversely-disposed members.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this 31st day of August, 1911.

ALBERT J. McCAULEY.

Witnesses:

M. P. SMITH,
JESSIE CLARK.