C. T. WESTLAKE.

CAR UNDERFRAME.

APPLICATION FILED JUNE 26, 1911.

1,066,171.

Patented July 1, 1913.

2 SHEETS—SHEET 1.

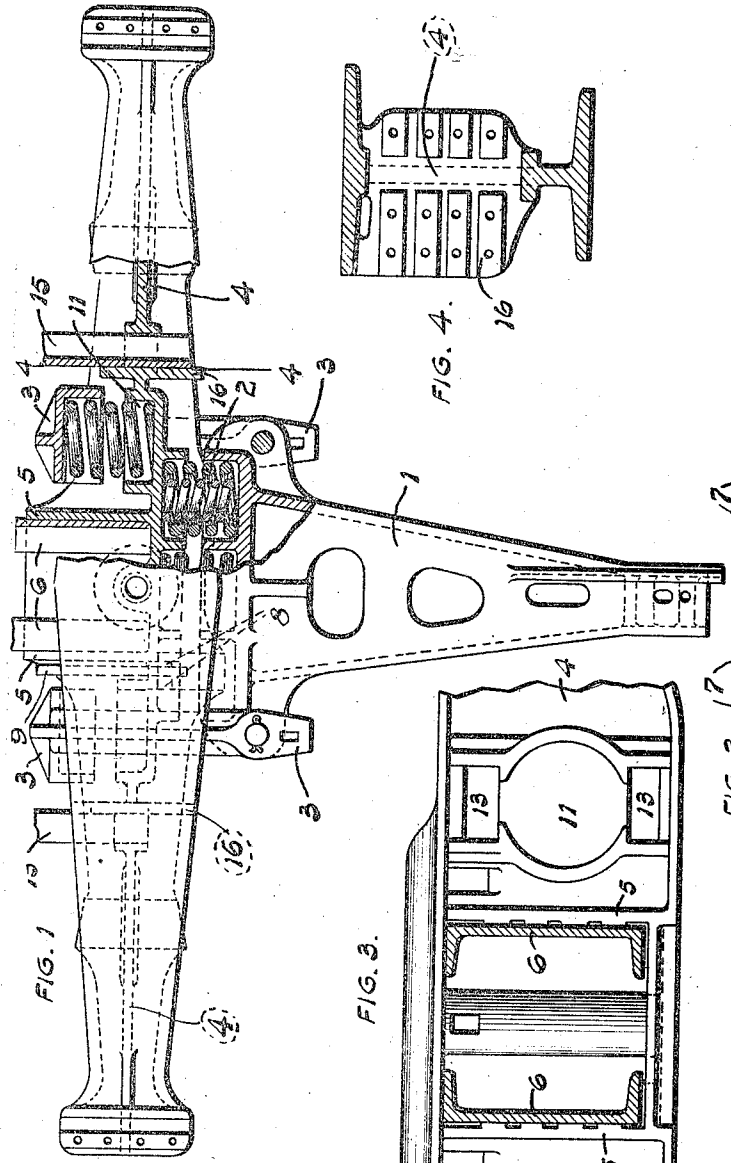

FIG. 1

FIG. 4.

FIG. 3.

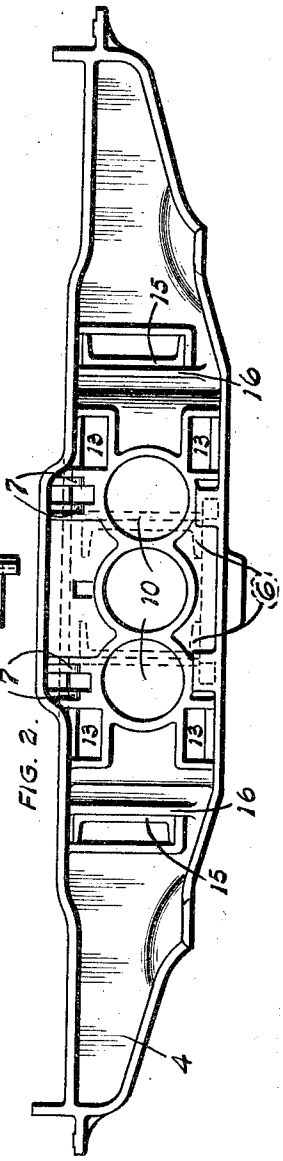

FIG. 2.

WITNESSES

Wm. Janus

W. P. Smith

INVENTOR

CHARLES T. WESTLAKE

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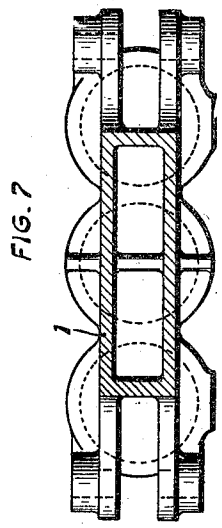


FIG. 7

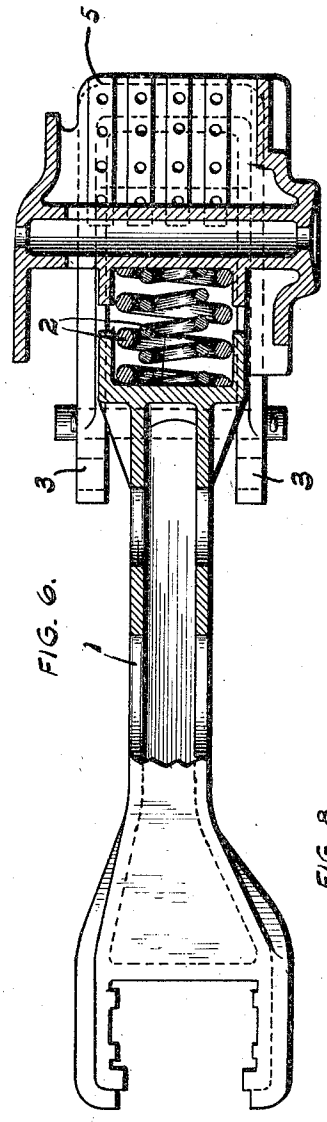


FIG. 6.

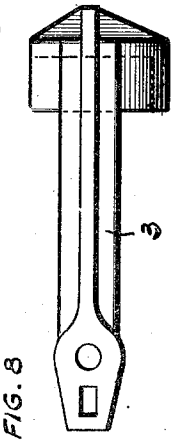
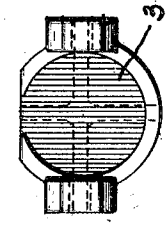


FIG. 8



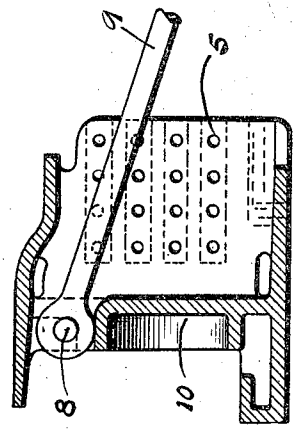


FIG. 5

WITNESSES

Wm. Jarvis.

W. O. Smith

INVENTOR

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UNITED STATES PATENT OFFICE.

CHARLES T. WESTLAKE, OF ST. LOUIS, MISSOURI, ASSIGNOR TO TRANSOM DRAFT GEAR COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF DELAWARE.

CAR-UNDERFRAME.

1,066,171. Specification of Letters Patent. Patented July 1, 1913.

Application filed June 26, 1911. Serial No. 635,454.

To all whom it may concern:

Be it known that I, CHARLES T. WESTLAKE, 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 a portion of a car underframe of my improved construction and illustrating the body bolster, the transom draw bar and associated parts. Fig. 2 is a front elevational view of the transom or bolster with which the draft gear coöperates; Fig. 3 is a rear elevational view of the central portion of said bolster; Fig. 4 is a cross sectional view on line 4—4, Fig. 1; Fig. 5 is a cross sectional view of the body bolster and showing the end portion of one of the truss rods connected thereto. Fig. 6 is a vertical sectional view through the center of the transom draft gear; Fig. 7 is a vertical sectional view of the transom draw bar, and Fig. 8 shows detail views of the yokes.

This invention relates generally to car underframes (and more particularly to the transom draft gears and related parts,) the object being to construct an efficient and strong device of the character described and one which will readily stand the wear and tear of hard service.

In the drawings, I have shown the transom draw bar 1 as having three spring seats at its inner end for coöperating with draft springs 2. The inner end of this draw bar 1 is also provided with means coöperating with stirrup yokes 3 which coöperate with two springs which bear upon the rear face of the bolster web. The bolster shown comprises a vertical web 4 having top and bottom flanges and means at its ends for the attachment of side sills. This bolster member has inwardly extending webs 5 preferably provided with finishing ribs for the attachment of channels 6 constituting the center sills of the car and the lower portions of these webs 5 are united by a horizontally disposed plate 5^a that is an extension of the corresponding bottom flange of the bolster. (See Fig. 5.) The outer edge of the top flange of the bolster is preferably elevated, as shown in Fig. 5, and provided with lugs 7 on each side of openings through the vertical web for the reception of pintle rods 8 passing through the eyes of tension rods 9. These tension rods, of which there are two, are located outside of the center sill members and extend from the points where they are connected to the body bolster downward along the sides of the center sill members in the usual manner.

The vertical web of the bolster is provided with spring seats 10 on its front face to coöperate with the set of three draft springs before referred to, its rear face having seats 11 between openings 13 through which the legs of the stirrups 3 pass. Suitable openings 14 are provided for the intermediate sills 15, preferably in the form of channels, which sills are riveted to the vertical webs 16 (see Fig. 4), which webs are faced with finishing ribs as shown.

From the above construction it will be observed that the truss rods for the center sill are anchored for the bolster beyond the ends of the center sill members and in a plane above the horizontal plane of said center sill members, and in this manner I am able to secure a deeper truss and hence greater rigidity than would be the case if the truss rods were anchored in a lower horizontal plane than that shown.

By providing a greater number of draft springs in front of the bolster web, I am better able to resist the buffing strains and shocks incident to the coupling of cars, and by trussing the center sill member and connecting the bolsters together by the truss rods and said center sill members, I produce a strong, rigid underframe in which the major portion of the load is designed to be carried by the center sill from which, at points intermediate the bolster, flanged transoms or floor supports may be arranged, as is common in this art. By employing the rigid center construction which serves as the backbone of the car, it is not necessary to use heavy side sills, and therefore comparatively light side sills can be utilized.

I claim:

1. In a car underframe, a bolster having its top flange arched and its center web provided with openings immediately beneath the arched top flange which openings are adapted to receive the ends of truss rods.

2. In a car underframe, the combination

with a pair of bolsters having vertically disposed center webs in which are formed openings, of flanges on the webs of the bolsters to the sides of the openings therein, sill members arranged between the bolsters with their ends extending through the openings in the webs thereof, the ends of which sills are attached to the flanges to the sides of the openings, and truss rods arranged between the bolsters with their ends anchored in the webs thereof.

3. In a car underframe the combination with a bolster of center sill members secured thereto and terminating in front of the web of said bolster, and tension rods passing through the web of said bolster and anchored beyond the ends of said center sill members and above the horizontal plane thereof.

4. In a car underframe a bolster whose top flange is arched and provided with anchoring seats for truss rods in combination with center sill members, the ends of which bear against the vertical web of the bolster and truss rods, the ends of which occupy the anchoring seats.

5. In a car underframe a bolster comprising a web and top and bottom flanges, the top flange in front of the web being arched to receive truss rods in combination with center sill members, the ends of which bear against the vertical web of the bolster and truss rods, the ends of which occupy the anchoring seats.

6. In a car underframe a bolster having a vertical web and top and bottom flanges, the top flange at the center of the bolster in front of the vertical web being arched and provided with anchoring seats for truss rods in combination with center sill members, the ends of which bear against the vertical web of the bolster and truss rods, the ends of which occupy the anchoring seats.

7. In a car underframe a bolster having a vertical web, an arched top flange and a bottom flange, said vertical web being provided with openings and anchoring seats for truss rods arranged on each side of said openings in combination with center sill members, the ends of which bear against the vertical web of the bolster and truss rods, the ends of which occupy the anchoring seats.

8. In a car underframe, a bolster comprising a vertical web, an arched top flange and a bottom flange, integral webs for the attachment of center sill members, the vertical web being provided with openings adapted to receive intermediate sills, and the vertical web of said bolster being provided with anchoring seats beneath the arched portion of the top web for the ends of truss rods.

9. In a car underframe, the combination with center sills and intermediate sills, of bolsters having integral webs for attachment to the ends of the center sills, there being openings in said bolsters for the ends of the intermediate sills, webs integral with the bolsters to the sides of the intermediate sill openings, which webs are adapted to be attached to the intermediate sills, and truss rods, the ends of which are seated in the bolster adjacent to the ends of the center sills.

10. In a car underframe, the combination with a pair of bolsters, of a trussed center sill construction, the ends of the compression members of which construction bear directly against the bolsters, and the tension members of which construction are anchored in the bolsters on the sides opposite the sides against which the compression members engage.

11. In a car underframe, the combination with a pair of bolsters having vertical webs, of a trussed center sill construction, the ends of the compression members of which construction are fixed to the bolsters and bear directly against the inner faces of the webs thereof, and the tension members of which trussed center sill construction are seated in the outer faces of the webs of the bolsters.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this 16th day of June, 1911.

CHARLES T. WESTLAKE.

Witnesses:

M. P. SMITH,

HAL C. BELLVILLE.