H. C. PRIEBE.

CAR UNDERFRAME.

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1,012,012.

Patented Dec. 19, 1911.

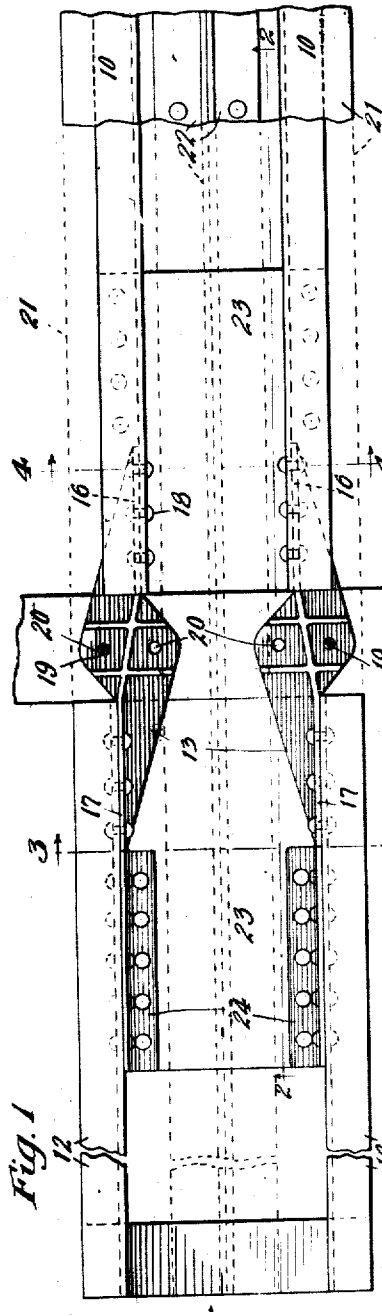

Fig. 1

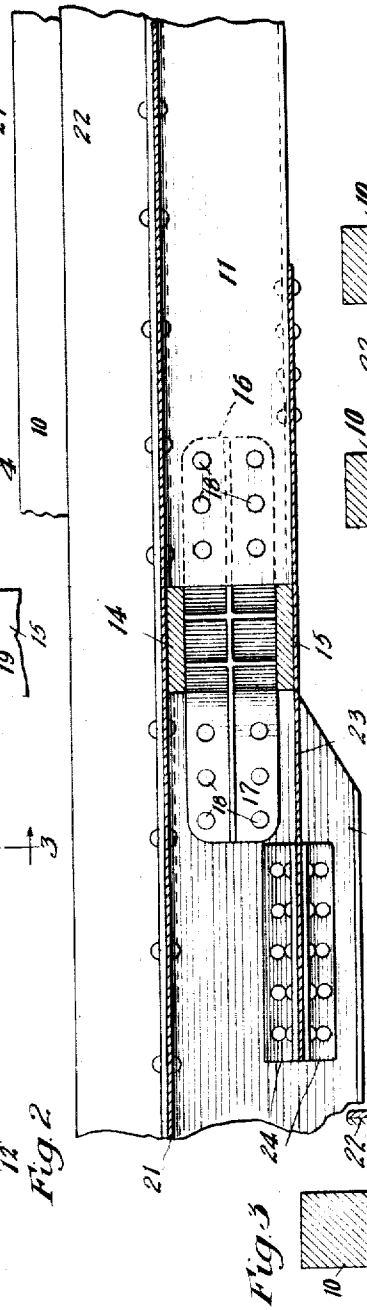

Fig. 2

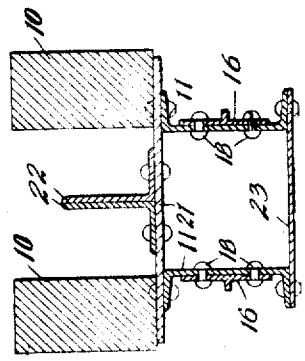

Fig. 4

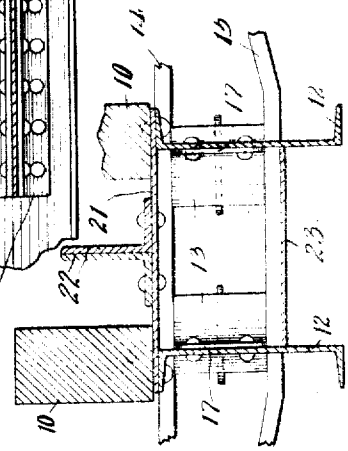

Fig. 3

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UNITED STATES PATENT OFFICE.

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CAR-UNDERFRAME.

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To all whom it may concern:

Be it known that I, HERMAN C. PRIEBE, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Car-Underframes, of which the following is a specification.

My invention has for an object the providing of a metallic underframe wherein the metallic draft-sills may be permitted a wider spread than the metallic center-sills and at the same time be rigidly secured to and constitute prolongations of said center-sills through the body-bolster; and the invention has for further objects such other improvements in structure or function as may be found to obtain in the devices hereinafter described or claimed.

In the accompanying drawings, forming a part of these specifications, and in which like reference numerals indicate like parts in all of the figures, Figure 1 is a top plan view of the structure, with the upper longitudinal reinforcing plate and the wooden sills and the upper transverse member of the body-bolster all broken away to show more clearly the manner of connecting the metallic center-sills with the draft-sills; Fig. 2 is a longitudinal sectional view taken on the line 2—2 of Fig. 1; Fig. 3 is a transverse sectional view on the line 3—3 of Fig. 1; Fig. 4 is a transverse sectional view on the line 4—4 of Fig. 1.

10, 10 are the wooden center-sills.

11, 11 are the channel-iron center-sills, extending from one to the other of the two body-bolsters of the car and at either end abutting the inner transverse faces of the transverse members constituting each of said body-bolsters, as indicated in Figs. 1 and 2.

12, 12 are the channel-iron draft-sills, a pair at either end of the car extending from the body-bolster to the end of the car and abutting the outer transverse faces of the transverse members constituting the body-bolster, as also indicated in Figs. 1 and 2. These channel-iron draft-sills have their upper flanges on the same level as the upper flanges of the channel-iron center-sills, but are of considerably greater depth than said center-sills, the lower flanges of said draft-sills depending considerably below the level of the lower flanges of the center-sills. The channel-iron center-sills are so positioned that the opposed inner faces of their vertical webs are spaced apart about the same distance as the opposed inner faces of the wooden center-sills, as is indicated in Fig. 4; but the draft-sills are spaced apart considerably farther, as is indicated in Figs. 1 and 3; and in order to accommodate this difference in the spacing of the channel-iron center-sills and the draft-sills, and at the same time rigidly bind the said differently spaced sills together at and through the body-bolster, and also to give a firm bearing and connection between each body-bolster and both of said opposed pairs of sills, there are provided two tie-castings 13, 13 seated in each body-bolster, fitting between and bearing against the upper transverse member 14 and lower transverse member 15 of such body-bolster, each such tie-casting 13 having two oppositely extended and mutually off-set wings 16 and 17, respectively engaging and secured to the outer face of the vertical web of the adjacent channel-iron center-sill and the inner face of the vertical web of the adjacent draft-sill. These respectively off-set wings of each tie-casting are rigidly riveted, by rivets 18, to the webs of the channel-irons that they respectively engage, as above stated; and the middle portion of each tie-casting, fitted within and between the upper and lower transverse members of the body-bolster, is expanded and webbed, as indicated in Figs. 1, 2 and 3, and is rigidly secured to the body-bolster by bolts 19 passed through the bolt holes 20 in the horizontal median web of such enlarged portion of the tie-casting. These tie-castings thus rigidly bind together, and with the body-bolster, the metallic center-sills, whose ends abut the inner transverse face of said bolster, and the more widely spread draft-sills, whose ends abut the outer transverse face of said bolster; and each tie-casting has a firm and rigid bearing within and connection to the body-bolster that it passes through. The channel-iron center-sills intermediate the body-bolsters are further connected with each other and with the pair of draft-sills beyond each body-bolster, by a wide longitudinal reinforcing plate 21 resting on top of and secured to the upper flanges of all of the channel-iron sills, said plate spanning the space between the sills and extending over the upper face of the upper transverse member of the body-bolster (Fig. 3) and also supporting the wooden center-sills, whose

lower faces rest upon the lateral edges of the upper face of said plate (Figs. 3 and 4). This plate 21 is further reinforced and stiffened by the pair of angle irons 22 resting longitudinally along the middle of said plate from one end to the other of the car, between the wooden center-sills, said angle-irons 22 have their vertical webs face to face and their respective horizontal flanges riveted to the plate 21, as indicated in Figs. 3 and 4. The channel-iron center-sills are further secured to the draft-sills by the short lower tie-plate 23 at each bolster, such tie-plate extending under and supporting the under face of the lower transverse member of the body-bolster, and having a width just sufficient to permit it to fit between the opposed faces of the vertical webs of the pair of draft-sills, as indicated in Fig. 3. One end of this lower tie-plate rests against and is riveted to the under side of the lower horizontal flanges of the channel-iron center-sills adjacent the bolster as indicated in Figs. 1, 2 and 4; and the other end of this lower tie-plate, fitting between the opposed vertical webs of the pair of draft-sills, is laterally secured, along its opposite side edges, to the said vertical webs, by means of the pairs of angle-irons 24, one of the angle-irons of each pair being positioned above and the other below the said plate, and each angle-iron having its vertical flange riveted to the vertical web of the adjacent draft-sill, while the horizontal flanges of the angle-irons of each pair, on the respectively opposite sides of the plate, are secured together and to the said plate by the rivets that are passed through all three members, as indicated in Fig. 2. There is thus provided the most rigid possible binding together and reinforcing of the channel-iron center-sills intermediate the bolsters and the more widely spread metallic draft-sills beyond the respective bolsters at either end of the car.

My invention is hereinabove set forth as embodied in one particular form of construction, but I do not limit it thereto or to less than all the possible forms in which the invention as hereinafter claimed may be embodied and distinguished from any prior devices for like purpose.

I claim:

1. In a car underframe, in combination: body-bolsters; flanged metallic center-sills intermediate said bolsters; flanged metallic draft-sills beyond said bolsters and mutually spaced apart more widely than said center-sills; and tie-castings seated in and separable from said body-bolsters and having off-set wings respectively engaging and secured to the vertical webs of said center-sills and said draft-sills; substantially as specified.

2. In a car underframe, in combination: body-bolsters; flanged metallic center-sills intermediate and abutting said bolsters; flanged metallic draft-sills beyond and abutting said bolsters and mutually spaced apart more widely than said center-sills; and tie-castings seated in and separable from said body-bolsters and having off-set wings respectively engaging and secured to the vertical webs of said center-sills and said draft-sills; substantially as specified.

3. In a car underframe, in combination: body-bolsters; flanged metallic center-sills intermediate said bolsters; flanged metallic draft-sills beyond said bolsters and mutually spaced apart more widely than said center-sills; tie-castings seated in said body-bolsters and having off-set wings respectively engaging and secured to the vertical webs of said center-sills and said draft-sills; and tie-plates above and below said bolsters and secured to the pairs of sills on both sides of each bolster; substantially as specified.

4. In a car underframe, in combination: body-bolsters; channel-iron center-sills intermediate said bolsters; channel-iron draft-sills beyond said bolsters and mutually spaced apart more widely than said center-sills; and tie-castings seated in and separable from said body-bolsters and having off-set wings respectively engaging and secured to the vertical webs of said center-sills and said draft-sills; substantially as specified.

5. In a car underframe, in combination: body-bolsters; channel-iron center-sills intermediate said bolsters; deeper channel-iron draft-sills beyond said bolsters and mutually spaced apart more widely than said center-sills; and tie-castings seated in said body-bolsters and having off-set wings respectively engaging and secured to the vertical webs of said center-sills and said draft-sills; substantially as specified.

6. In a car underframe, in combination: body-bolsters; channel-iron center-sills intermediate said bolsters; deeper channel-iron draft-sills beyond said bolsters and mutually spaced apart more widely than said center-sills; tie-castings seated in said body-bolsters and having off-set wings respectively engaging and secured to the vertical webs of said center-sills and said draft-sills; and tie-plates above and below said bolsters and secured to the pairs of sills on both sides of each bolster, the upper tie-plate being secured to the upper flanges of all of said sills and the lower tie-plate being secured to the lower flanges of the center-sills and the vertical webs of the draft-sills; substantially as specified.

7. In a car underframe, in combination: body-bolsters; flanged metallic center-sills intermediate said bolsters; flanged metallic draft-sills beyond said bolsters and mutually spaced apart more widely than said center-sills; tie-castings seated in said body-bolsters and having off-set wings respectively engag-

ing and secured to the vertical webs of said center-sills and said draft-sills; tie plates above and below said bolsters and secured to the pairs of sills on both sides of each bolster; and wooden center-sills supported on the upper tie-plate; substantially as specified.

8. In a car underframe, in combination: body-bolsters; flanged metallic center-sills intermediate said bolsters; flanged metallic draft-sills beyond said bolsters and mutually spaced apart more widely than said center-sills; tie-castings seated in said body bolster and having off-set wings respectively engaging and secured to the vertical webs of said center-sills and said draft-sills; tie-plates above and below said bolsters and secured to the pairs of sills on both sides of each bolster; wooden center-sills supported on the upper tie-plate; and angle-irons secured longitudinally on and reinforcing said upper tie-plate between said wooden center-sills; substantially as specified.

9. In a car underframe, in combination: body-bolsters; flanged metallic center-sills intermediate said bolsters; flanged metallic draft-sills beyond said bolsters and mutually spaced apart more widely than said center-sills; tie-castings seated in said body-bolsters and having off-set wings respectively engaging and secured to the vertical webs of said center-sills and said draft-sills; and a tie-plate spanning each bolster and secured to the pairs of sills on both sides of each bolster; substantially as specified.

In testimony whereof I hereunto set my hand in the presence of two subscribing witnesses.

HERMAN C. PRIEBE.

Witnesses:
HENRY LOVE CLARKE,
H. M. MUNDAY.