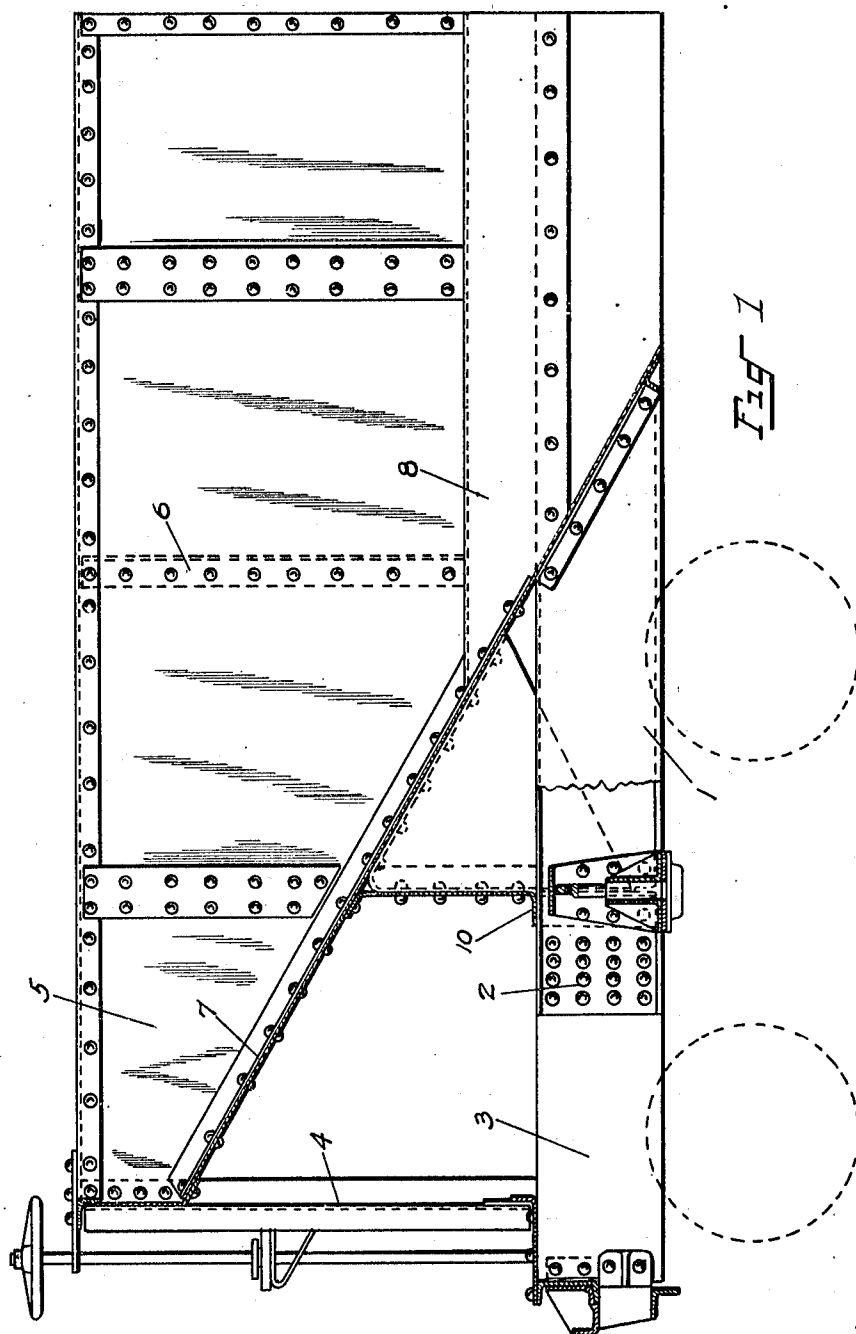


A. BECKER.
CAR UNDERFRAME.
APPLICATION FILED JAN. 25, 1909.

956,841.

Patented May 3, 1910.

3 SHEETS—SHEET 1.



WITNESSES:

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3 SHEETS—SHEET 2.

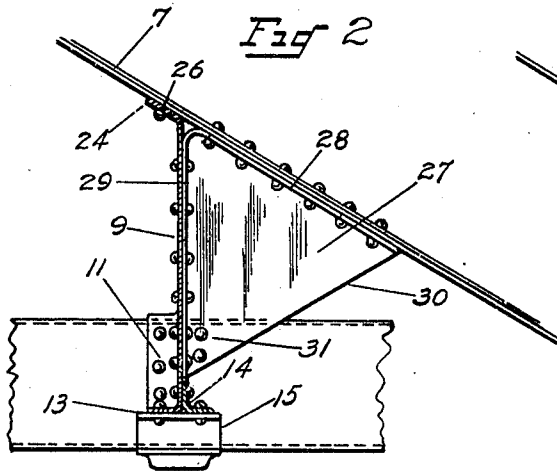
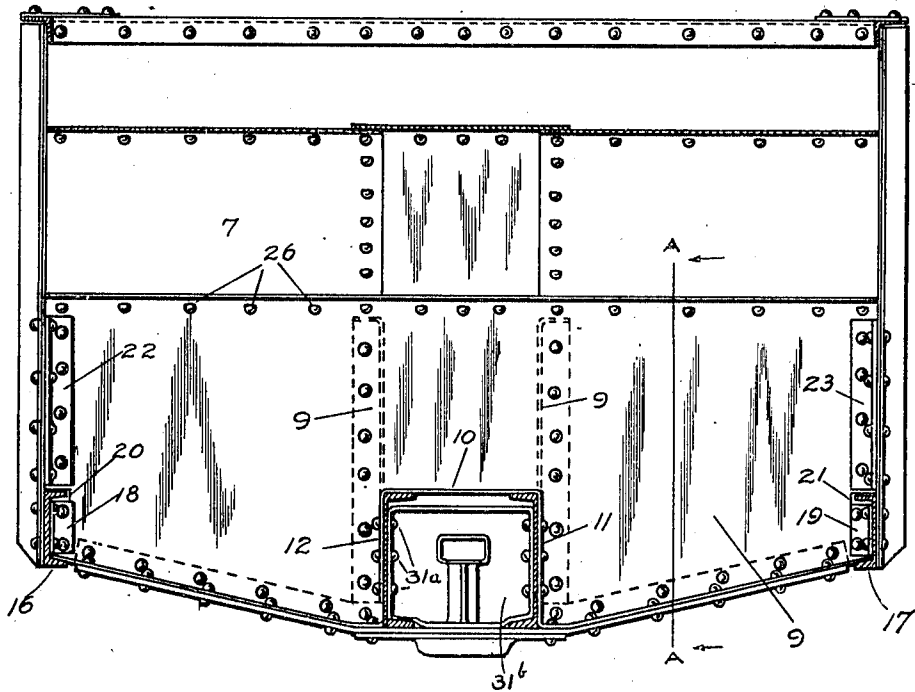


Fig 3

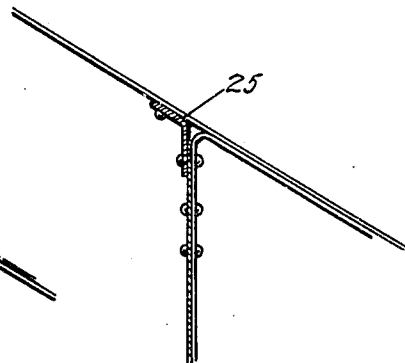


Fig 4

WITNESSES:

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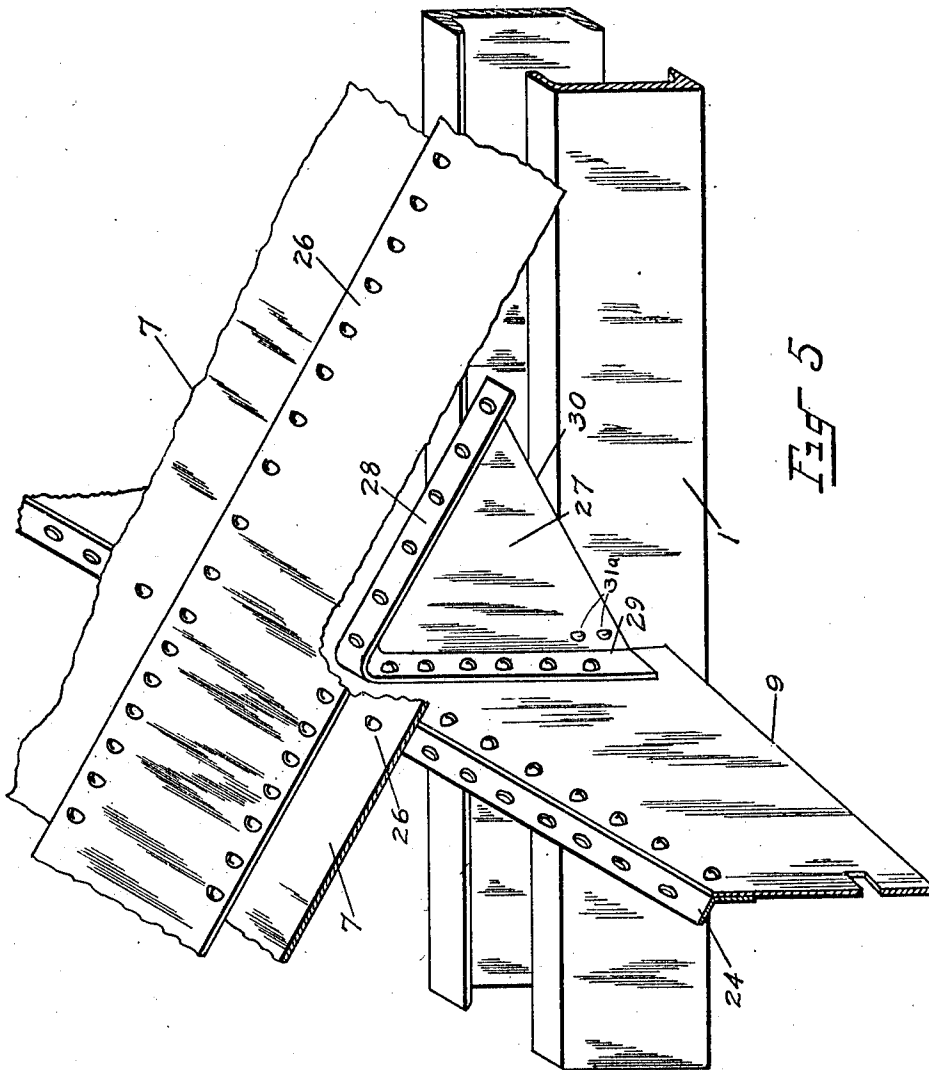
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3 SHEETS—SHEET 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

ANTON BECKER, OF COLUMBUS, OHIO, ASSIGNOR TO THE RALSTON STEEL CAR COMPANY, OF COLUMBUS, OHIO, A CORPORATION OF OHIO.

CAR-UNDERFRAME.

956,841.

Specification of Letters Patent.

Patented May 3, 1910.

Application filed January 25, 1909. Serial No. 473,994.

To all whom it may concern:

Be it known that I, ANTON BECKER, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Car-Underframes, of which the following is a specification.

My invention relates to improvements in a body bolster for hopper cars, formed preferably of an integral plate extending upwardly and constituting a support for the hopper floor sheets, and connected with the sides of the car and the center sills. The invention further includes the provision of a bracing member interposed between the floor sheets and the bolster, whereby the bolster is reinforced and the hopper floor is especially strengthened at the point of junction with the center sill ridge.

These and other features and their combinations constitute the present invention which will be more specifically hereinafter set forth.

Referring to the drawings which are hereto attached and hereby made a part of this specification, Figure 1 shows the side elevation of the end of a car in vertical longitudinal section at the center sill, showing the application of my improvements; Fig. 2 is an end elevation of a car in vertical transverse section, showing my improvements; Fig. 3 is a detail of the triangular bracing member applied to the bolster plate, showing also the attachment of the latter to the center sill and floor sheets, the section being taken along the line A—A of Fig. 2; Fig. 4 is another form of the bolster plate, connected to the floor sheet by means of the angular plate; Fig. 5 is a perspective showing the relative positions of the bolster plate, center sills, and hopper floor sheets.

In the drawings in which the same numeral indicates the same part throughout, 1 is the center sill of the car connected at 2 to the draft sill 3, the sills being overlapped and riveted together, so that their upper and lower flanges lie practically in the same horizontal plane; 4 is the end of the car and 5 is the side, a side stake being shown at 6. The car is of the twin-hopper type, the hopper floor sheet at one end of the car being shown at 7 and the center sill ridge being shown at 8.

The body bolster is formed of the plate

member 9 which is slit and bent outwardly for application to the center sills, the slitted portions being formed into an integral flange 10 overlying the center sills and riveted thereto, and the side flanges 11 and 12 embracing the vertical webs of the center sill and being riveted thereto; the integral flanges 10, 11 and 12 formed on the bolster plate 9, not only secure the same to the center sills but greatly strengthen the construction at this point. Along its lower edge, on each side of the center sills, the bolster plate 9 is provided with an integral flange 13, and the angle 14 is secured on the opposite side of the lower edge of the bolster plate and riveted to the bolster plate, and a compression member 15 is riveted to the angle 14 and the integral flange 13 and underlies the center sill construction, extending from a point adjacent to one end of the lower edge of said bolster plate to a point adjacent the opposite end of the same.

The sub side sills are shown at 16 and 17, and the bolster plate 9 is connected thereto at its opposite ends by means of the angles 18 and 19 riveted to the said plate and the sub side sill, the plate being sheared at 20 and 21 to receive the upper flanges of the sub side sills. The bolster plate is also secured to the side of the car by means of the angle members 22 and 23, which are riveted to the side of the bolster plate and the sides of the car, all of which clearly appears in Fig. 2. The bolster plate at its upper end has the inclined flange member 24 either formed thereon as shown in Fig. 3, or riveted thereto as shown at 25 in Fig. 4, this inclined flange member underlying transversely the slope or hopper floor sheet 7, supporting the same from one side of the car to the other and riveted thereto at 26.

In the angle formed between the floor sheet 7 and the bolster plate 9, I place a triangular bracing member 27 provided with a flange 28 on its inclined side, and a flange 29 on its vertical side, the other side 30 being left unflanged. This triangular bracket or bracing member 27 is riveted through the flange 29 to the bolster plate 9, and through the flange 28 to the floor sheet 7; its lower portion overlaps the vertical web of the center sill as shown at 31, bears thereagainst laterally, and is preferably secured thereto by rivets 31^a, which pass through the vertical web of the center sill and the center brace

31^b, thereby tying securely together the said center brace, center sill, and bracket member; this construction enables the bracket member to offer great resistance both to longitudinal and to lateral thrusts thereon incident to the operation of a hopper car. This bracket member 27 braces and reinforces the floor sheet and the bolster plate to prevent sagging of the former and buckling of the latter, and by means of the bearing against the side of the center sill, tends to prevent lateral or swinging motion generated by the movement and handling of the car. It has the further advantage also of providing a support at the point where the center sill ridge 8 meets the floor sheets 7, as reference to Fig. 2 shows that the two bracket members 9 are applied to the car in line with the sides of the center sills and are therefore properly positioned for reinforcing the point of junction of the parts noted. A flanged cross member has ordinarily been provided at the line of junction of the slope or floor sheets and the center sill ridge to strengthen the same, but the provision of the brackets 9 as shown in my improvements entirely dispenses with the need of this flanged member and also provides a stronger construction than has been furnished hitherto.

From the foregoing description it will appear that I have provided a body bolster applied to the center sill construction and secured thereto through integral flanges formed on said bolster, and secured also to the sub side sills and the sides of the car; it is also strengthened at its lower edge by means of an integral flange thereon and an angle member secured thereto on the side opposite to that on which the flange is provided, said angle member extending from the center sill to the side of the car. A compression member extending beneath the center sills from side to side of the car is riveted to the lower flange of the bolster plate and also to the angle member secured thereon, whereby the two sides of the bolster plate are securely tied together and effectually prevented from spreading. The bolster plate carries at its upper side the inclined flange riveted to the slope or floor sheets and supporting the same, and also has secured thereto the bracket member interposed between the said body bolster plate and the slope sheet and secured thereto; said bracket member has a lateral bearing against the vertical web of the center sill and is preferably riveted thereto.

Changes in the construction may be made within the scope of the appended claims, and I do not desire therefore to be limited to the specific construction shown.

What I claim is:

1. In a hopper car a body bolster formed of an integral plate embracing the sides of the center sill and extending above the same,

an integral flange formed thereon and riveted to the center sill, an inclined flange at the upper end of said bolster plate underlying the hopper floor sheets and riveted thereto, the ends of said bolster plate being secured to the sides of the car, and a bracket member interposed between said bolster plate and floor sheet and secured thereto.

2. In a hopper car an integral bolster plate having an integral continuous flange along its lower edge, and a continuous flange along its upper edge and forming a seat for the floor sheets and secured at its ends to the sides of the car, a bracket member interposed between said bolster plate and floor sheet and secured thereto, and having a lateral bearing against the vertical web of the center sill.

3. In a hopper car, a bolster plate applied to the center sills by means of a continuous integral flange thereon, a flange carried upon the upper edge of said bolster plate to form a seat for the hopper floor sheets, a bracket interposed between said bolster plate and floor sheets and secured thereto through a continuous flange formed upon two sides thereof, said bracket at its lower end overlapping the vertical web of the center sill and bearing laterally thereupon.

4. In a hopper car an integral bolster plate extending upwardly above the center sills and forming a seat for the hopper floor sheets, a triangular bracket member flanged on two of its sides to engage said bolster plate and floor sheets and being riveted thereto and at its lower end having a lateral bearing against the center sill.

5. In a hopper car, a bolster plate cut away to be applied to the center sills and having a continuous flange formed along its lower edge, a continuous flange provided along its upper edge to form a seat for the floor sheets, an angle member riveted thereto along the lower edge at each side of the center sills, a compression plate extending from side to side of the car underneath the center sills and secured to said bolster plate and angle members, means for securing said bolster plate to the sides of the car, and bracket members interposed between the bolster plate and the floor sheets and secured thereto and having lateral bearings upon the center sills.

6. In a car a bolster applied to the vertical webs of the center sills and extending upwardly above said sills, and a bracing member secured along one edge to said bolster, and having a lateral bearing against the center sill.

In testimony whereof I affix my signature in the presence of two witnesses.

ANTON BECKER.

Witnesses:

C. H. WEBER,
E. J. REEVES.