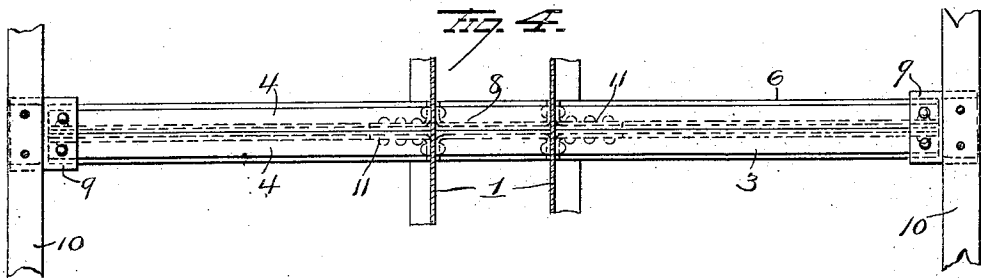
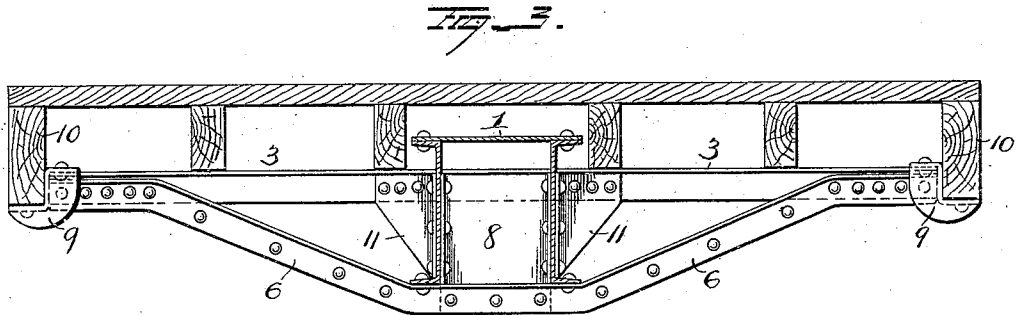
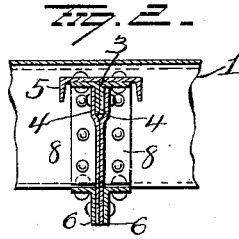
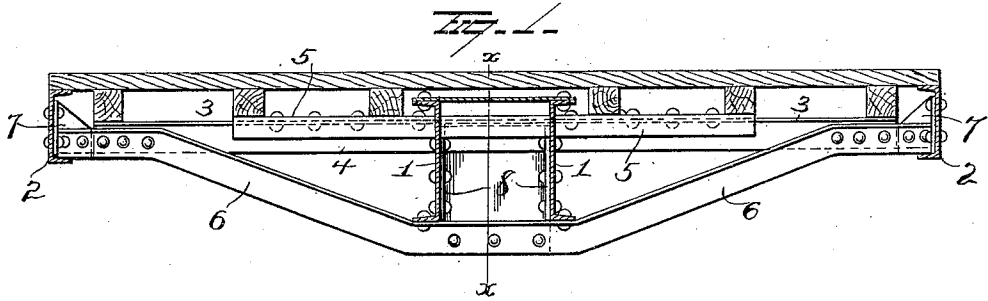


A. BECKER.
 UNDERFRAME FOR CARS.
 APPLICATION FILED APR. 16, 1909.

934,383.

Patented Sept. 14, 1909.



WITNESSES
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UNDERFRAME FOR CARS.

934,383.

Specification of Letters Patent. Patented Sept. 14, 1909.

Application filed April 16, 1909. Serial No. 490,303.

To all whom it may concern:

Be it known that I, ANTON BECKER, of Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Underframes for Cars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in underframes for cars, and more particularly to the construction of the cross-bearers,—the object of the invention being to provide a simple and efficient construction of cross-bearer which will operate to transmit the load to the center girder and obviate the use of diaphragms at respective sides of the latter.

With this object in view the invention consists in certain novel features of construction and combinations of parts as hereinafter set forth and pointed out in the claims.

In the accompanying drawings, Figure 1 is a transverse sectional view of a car underframe showing an embodiment of my invention. Fig. 2 is a sectional view on the line $x-x$ of Fig. 1, and Figs. 3 and 4 are views illustrating modifications.

1 represents a center girder of the box type and 2 the side sills of a car underframe, said side sills being connected with the center girder by means of cross-bearers 3.

Each cross-bearer comprises horizontal angle-beams 4 having their vertical flanges disposed parallel with each other and passing through the center girder members,—said angle-beams terminating at their respective ends in proximity to the side sills.

A tension plate made in the form of a channel beam 5 is secured upon the horizontal flanges of the angle-beams 4 and extends through the center girder. The compression member of each cross-bearer consists of angle-beams 6 secured at their outer ends to the angle beam tension member 4 and extend beyond the latter to the side sills to which they are secured by means of gussets 7. From their connection with the angle beams 4 the compression angle-beams 6 extend in a diagonal direction and pass under the center girder. The compression beams 6 thus extend from one side sill to the other and pass

under the center girder, to the lower flanges of which said compression beams are riveted. Braces 8 are secured between the center girder members and, depending below the bottom of said center girder, these braces are riveted to the compression angle-beams 6 where the latter pass under the center girder.

In the construction shown in Figs. 3 and 4 the upper angle-beams of the cross-bearers and the lower angle-beams are secured together near the sides of the car and have riveted to them, castings 9 which constitute seats for wooden side sills 10. In this construction the upper angle-beams of the cross-bearer which constitutes the tension member thereof, are braced to the center girder by means of brackets 11.

Having fully described my invention what I claim as new and desire to secure by Letters-Patent, is,—

1. In a car underframe, the combination with a center girder and side sills, of a cross-bearer comprising a tension member consisting of parallel angle-beams extending from side to side of the underframe, and a compression member consisting of angle-beams secured at their outer ends to said tension beams and passing under the center girder, and means for connecting the side sills with said cross-bearer.

2. In a car underframe, the combination with a center girder, of a cross-bearer comprising an angle beam passing through the center girder, a channel iron tension plate secured to said angle-beam and also passing through the center girder, and an angle beam secured to the ends of the first mentioned angle beam, passing under the center girder and constituting the compression member of the cross-bearer.

3. In a car underframe, the combination with a center girder, of a cross-bearer comprising an angle beam passing horizontally through the center girder and a compression member secured to the end of said horizontal angle beam and passing under the center girder, a brace between the center girder members, said brace depending below the center girder and secured to said compression member.

4. In a car underframe, the combination with a center girder and side sills, of a cross-bearer comprising an angle beam, compres-

sion member passing under the center girder and extending to the side sills, a horizontal angle-beam passing through the center girder and secured at its ends to the compression member, and means connecting the ends of the compression member with the side sills.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

ANTON BECKER.

Witnesses:

T. B. LIVINGSTON,
E. S. CULVER.