





# UNITED STATES PATENT OFFICE.

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## UNDERFRAME FOR CARS.

No. 899,650.

Specification of Letters Patent.

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*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.

My invention relates to underframes for cars and more particularly to improvements especially adaptable for short vehicles or cars such as cabooses,—the object of the invention being to provide simple and efficient means whereby such underframe can be effectually supported upon the car pedestals and which shall possess sufficient rigidity and strength for the purpose for which it is intended.

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 illustrating a car underframe embodying my improvements, and Fig. 2 is a fragmentary view illustrating a slight modification.

1, 1, represents Z-beams which are located upon and secured to the pedestals 1<sup>a</sup> of the car over the journal-boxes. These Z-beams serve to support, through the medium of cross-beams 2, the center girder 3. Each cross-beam comprises two members and each of these members consists of a diaphragm of pressed steel having laterally projecting flanges at its edges. The inner flange 4 of each cross-beam member is riveted to a center girder member and to the upper flanges 5 of the cross-beam members, a compression plate 6 is secured and extends over the center girder. A similar compression plate 7 extends under the center girder and is secured to the lower flanges 8 of the respective cross-beam members. The outer end of each cross-beam member is contracted somewhat in depth and forms a recessed portion 9. At this recessed portion 9 the cross-beam member is placed upon the adjacent Z-beam so as to partially embrace the latter, and the short vertical flange 10 of the cross-beam is riveted to the vertical web of the Z-beam, while the

horizontal flange 11 of the cross-beam member is riveted to the upper horizontal flange 55 of the Z-beam.

The outer end of each cross-beam member is depressed so as to form a seat 12 in a plane somewhat below the upper edge of said cross-beam member for the accommodation of a side-sill 13. The cross-beam members are thus provided at their ends with side-sill seats which are depressed somewhat and serve to receive side-sills of moderate size. Furring strips 14 are located upon the cross-beams and their upper faces are made to aline with the upper faces of the side-sills for the accommodation of the car flooring.

As the cross-beam members are made of pressed-steel, I am enabled to provide flanges which extend entirely around their edges, but if desired the flange at the extreme outer end of the cross-beam member between the seat 12 and the recessed portion 9, may be omitted as at 15.

By the term "angle beams" as used in the claims, is meant beams having webs and flanges disposed substantially at right angles to the webs.

In a car of light construction where side-sills of the same size as the furring strip will suffice, the seats 12 at the outer ends of the cross-beams may be omitted. Such construction is illustrated in Fig. 2.

Other slight changes might be made in the details of construction without departing from the spirit of my invention and hence I do not wish to restrict myself to the precise details herein set forth.

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

1. A car underframe comprising angle-beams adapted to be supported upon the pedestals of a car, and a center girder, cross-beams, each comprising two members consisting of pressed steel diaphragms having flanged edges secured at their inner ends to the center girder and supported inwardly of their outer ends upon the angle-beams over the pedestals.

2. A car underframe comprising angle-beams adapted to be supported upon the car pedestals, and a center girder, cross-beams, each comprising two members secured to the center girder, each of said members having a



recessed outer portion partially embracing the angle-beams and secured to the web and top flange of the latter.

3. A car underframe comprising angle-beams adapted to be supported upon the car pedestals, and a center girder, cross-beams supporting the center girder upon said angle-beams, each of said cross-beams recessed near its outer ends and partially embracing the angle-beams and secured to the web and top flange of the latter, and each of said cross-beams having at its outer ends beyond its supports upon the angle-beams, seats for side-sills.

4. A car underframe comprising angle-beams adapted to be supported upon the car pedestals, and a center girder, cross-beams,

each comprising two members and each member consisting of a pressed steel diaphragm provided with flanged edges, the flange at the inner end of each cross-beam member secured to the center girder, and lower flanges of each cross-beam member secured to the adjacent angle-beam, each cross-sill member projecting laterally beyond said angle-beam and provided at its free end with a depressed seat for a side sill.

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

ANTON BECKER.

Witnesses:

E. J. CULVER,

F. A. LIVINGSTON.