Jan. 7, 1936. E. G. BUSSE ET AL 2,027,147

THIRD POINT SUPPORT SHOE

Filed Dec. 3, 1934

Fig. 1.

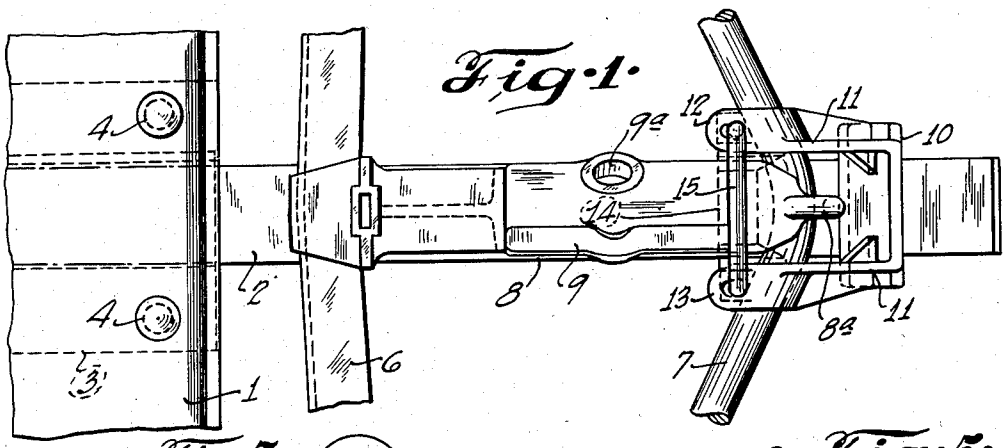


Fig. 7.

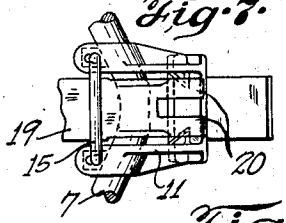


Fig. 2.

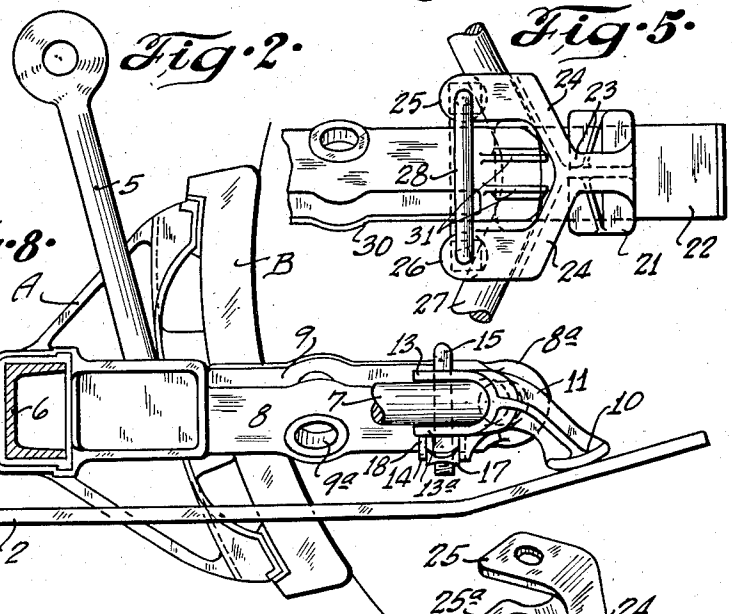


Fig. 5.

Fig. 8.

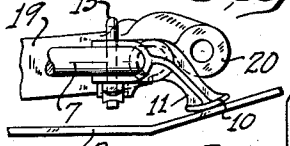


Fig. 4.

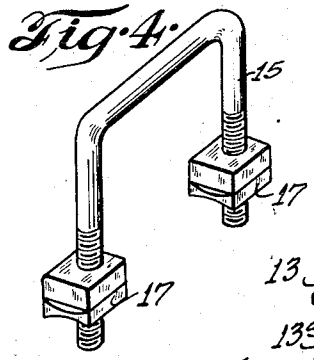


Fig. 6.

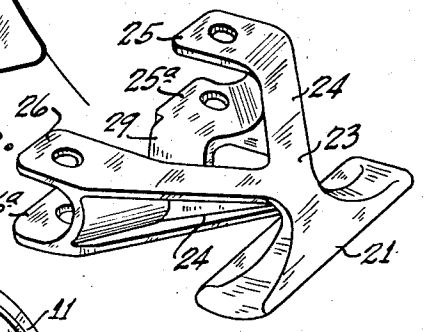
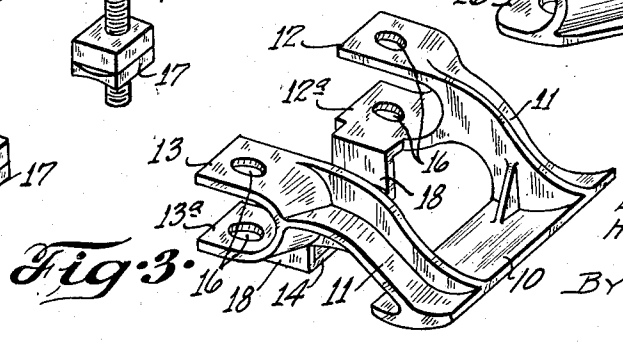


Fig. 3.



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THIRD POINT SUPPORT SHOE

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16 Claims. (Cl. 188—213)

This invention relates to brake equipment for railway vehicles and consists in a novel third point supporting chair for brake beams.

Where it is desired to support a truss type brake beam at the center, that is provide the so-called third point auxiliary support, a shoe or chair is ordinarily attached to special ears or lugs on the front end of the strut, which shoe or chair rests upon and is adapted to slide along a suitably inclined supporting strap carried by the spring plank or other convenient part of the truck. Reference is made to Williams Patent 997,888 for an early disclosure of this type of third point brake beam support.

Many brake beams in service do not have struts with the special lugs or ears, and where one of these is substituted for a beam having the third point support attaching elements, the old chair cannot be replaced and the third point support is, in most cases, not replaced.

A form of third point support chair which does not require a special strut has been suggested, but this chair utilizes metal straps which must be bent in application to the beam. After one or, at the most, several applications, the straps break and the chair must be discarded.

One object of the present invention is to provide a third point support chair which may be readily applied to a beam not provided with a special strut.

Another object of the invention is to provide a brake beam third point support chair which may be repeatedly detached and replaced without injuring the chair.

Another object is to provide a third point support chair which does not require special lugs or ears for attaching the same to a beam but may be attached to a variety of different types of beams including, if necessary, beams having the special lugs or ears.

These objects and others are attained by the structures illustrated in the accompanying drawing, in which—

Figure 1 is a top view illustrating parts of a truck and truss type brake beam embodying the invention.

Figure 2 is a vertical longitudinal section and side view illustrating the same.

Figures 3 and 4 illustrate in perspective enlarged details of the third point support chair device shown in Figures 1 and 2.

Figure 5 is a partial top view similar to Figure 1 but showing a modified form of chair and beam strut.

Figure 6 is an enlarged perspective view of the chair in Figure 5.

Figures 7 and 8 are partial top and side views, respectively, corresponding to Figures 1 and 2 and showing the third point support chair in Figures 1 and 2 applied to a beam having a different type of strut.

In Figures 1 and 2 is illustrated a part of a truck spring plank *1*, to which is attached a third point supporting strap **2** by means of a bracket **3** riveted to the spring plank as at **4**. Carried above the strap **2** by means of the usual brake hangers **5** is a truss type brake beam including channel compression member **6**, tension member **7**, and strut **8** having the usual slot **9** and pin holes **9a** for pivotal attachment to the brake lever (not shown) and a loop **8a** surrounding the tension member **7**. At the ends or lateral extremities of the beam are the usual brake heads A and shoes B. The support strap **2** has a longitudinally and upwardly inclined extremity upon which slidably rests the shoe portion **10** of a third point support chair secured to the beam at the intersection of the strut and tension member.

The support chair, as most clearly illustrated in Figure 3, includes a broad slightly curved shoe portion **10** and arms **11** at each side terminating in jaws **12**, **12a**, **13**, and **13a** for receiving the tension member **7**. Connecting the under jaws **12a** and **13a** is a depressed bar **14**.

The chair is secured to the beam, as indicated in Figures 1 and 2, by means of a U-bolt **15** which extends over the strut **8** and through apertures **16** in the jaws **12**, **12a**, **13**, and **13a** and is maintained therein by lock nuts **17**. The bolt is drawn down upon the top of the strut and the bottom of the strut rests within the depressed portion of the bar **14**. The vertical portions **18** of the bar provide abutments immediately adjacent the sides of the strut for preventing lateral movement of the chair relative to the beam and maintaining the same properly centered in the horizontal plane. Due to the opposite inclination of the portions of the tension member **7** held within the jaws **12**, **12a**, **13**, and **13a**, and the bar **14** and U-bolt **15**, the chair is prevented from tilting vertically. The chair is thus immovably secured to the beam.

The type of chair in Figures 1, 2, and 3 is universal and may be applied, as shown in Figures 7 and 8, to a beam having a strut **19** with special lugs or ears **20** for pivotal attachment of the old type of third point support chair. The universal chair does not utilize the ears **20**, but

these ears do not interfere with the application of the chair.

In Figures 5 and 6 is shown another form of universal third point support chair applied to a beam having a strut 30 with upwardly projecting ears or lugs 31 for attachment to an overhead third point suspension. The modified chair includes a broad shoe portion 21 for slidably resting upon the support strap 22 and a single arm 23 with bifurcations 24 terminating in the jaws 25, 25*a*, 26 and 26*a* which snugly embrace the tension member 27 and are held immovably attached thereto by the U-bolt 28. The bottom of the strut rests against the depressed bar 29, as in Figures 1 and 2. The modified chair may also be applied to beams having struts with forwardly projecting ears, as in Figures 7 and 8, or loops encircling the tension member as in Figures 1 and 2.

In each of the forms, the chair may be easily and firmly clamped to truss type beams with or without special struts and irrespective of strut structure which extends beyond, above, or below the tension member. Also the chair may be repeatedly detached from and reapplied to the beam without injuring the metal thereof as is the case where straps must be bent about the tension member and strut. Both forms of the chair may be properly applied to beams having substantially any type of strut. Since, in case the diameter of the tension member is less than the space between the chair jaws, the U-bolt will draw the bottom jaws tightly against the under surface of the tension member, the size of the tension member may be substantially varied without affecting the rigid assembly of either of the chairs with the beam. Where the tension member snugly fits the space between the chair jaws, the chair may be rigidly secured in position on the beam by a pair of pins extending through the apertures in each pair of jaws independently of the strut, instead of the U-bolt which clamps around the strut.

The invention is not limited to the exact details illustrated in the figures, and various modifications may be made and the exclusive use of all such modifications as come within the scope of the appended claims is contemplated.

What is claimed is:

1. In combination, a brake beam including a strut and a tension member, a brake beam guard, guide, or support member, and a third point support chair including structure extending on each side of said strut and an intermediate shoe slidable on said guard, guide, or support member but unrestricted thereby in its lateral movement, said structure including a separately formed movable element for clamping the chair to said tension member.

2. In combination, a brake beam including a strut and a tension member, and a third point support chair including structure engaging said tension member sidewardly of said strut and separately formed means for securing said structure to said tension member.

3. In combination, a brake beam including a tension member and a strut, and a third point support chair including jaws embracing said tension member on each side of said strut and separately formed structure for securing said jaws to said tension member and independently movable to facilitate disassembly and assembly of the chair and beam.

4. In combination, a brake beam including a strut and a tension member, and a third point support chair including separately formed parts immovably secured to said tension member on each side of said strut and abutments at each side of said strut for engaging the same to maintain the chair properly centered.

5. In combination, a brake beam including a strut and a tension member, and a third point support chair including parts secured to said tension member on each side of said strut, a member connecting said parts and extending beneath said strut, and a separately movable element connecting said parts and extending over said strut, said parts, member, and element maintaining said chair rigidly secured to said beam.

6. Structure as specified in claim 5 in which said movable element is in the form of a U-bolt.

7. A brake beam third point support chair having laterally spaced jaws for receiving the tension member of a brake beam and structure for extending around the beam strut, said structure including separately formed means for clamping the chair to the strut and tension member.

8. A brake beam third point support chair having laterally spaced elements for engaging the tension member of a brake beam, and separately formed means for firmly securing said elements to the tension member, in which space is provided between said spaced elements to accommodate a part of the beam strut extending beyond said tension member.

9. In a brake beam third point support chair, a part for slidably engaging a brake beam guard, guide, or support member, elements for embracing the tension member of the beam at the sides of said part, and independently operable means for clamping said elements to the tension member.

10. A brake beam third point support chair comprising a shoe portion for slidably engaging a guard, guide, or support member, an arm extending upwardly from said chair and bifurcated to form elements for engaging the brake beam tension member at points spaced laterally from the center thereof, and separably formed means for securing said elements to the tension member.

11. Structure as specified in claim 10 including a tie between said elements, said means and said tie being arranged to extend above and below the beam strut and to clamp the strut therebetween.

12. In combination, a brake beam including a tension member and a strut, and a third point support chair including elements associated with said tension member and structure clamped to said strut and including a separately formed movable part.

13. In combination, a brake beam including a tension member and a strut, and a third point support chair including elements located on each side of said strut and extending beyond said tension member and a U-bolt extending across said strut and cooperating with said elements so as to tightly draw the same against said tension member.

14. Structure as specified in claim 13 in which said elements are in the form of vertically spaced jaws embracing said tension member on each side of said strut, said U-bolt functioning to draw corresponding jaws against said tension member whereby said chair may be rigidly as-

sembled with beams having tension members of various sizes.

15. In combination, a brake beam including a tension member and a strut, and a third point support chair including a portion for engaging the under side of said tension member, a relatively movable part engaging the upper side of said strut, and means for clamping said portion and part against said tension member and strut.

16. A brake beam third point support chair comprising a shoe portion for engaging a guard, guide, or support member, a part extending therefrom to seat against the lower face of a brake beam tension member at opposite sides of the brake beam strut, a separate and removable part for overlying and straddling the strut, and means for drawing said parts together.

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