March 12, 1940. H. W. EKHOLM ET AL 2,192,965

RAILWAY BRAKE BEAM THIRD AND FOURTH POINT SUPPORT

Filed Nov. 14, 1938

FIG. 1.

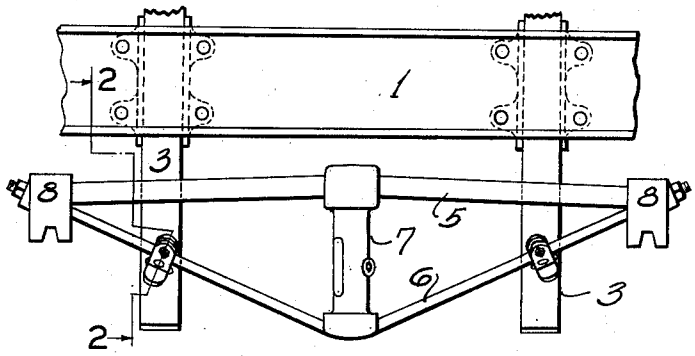


FIG. 2.

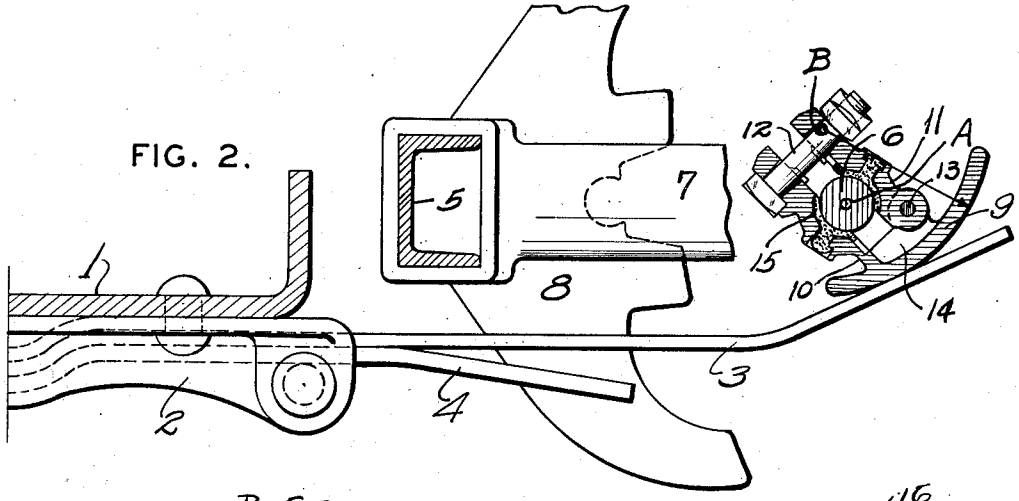


FIG. 4.

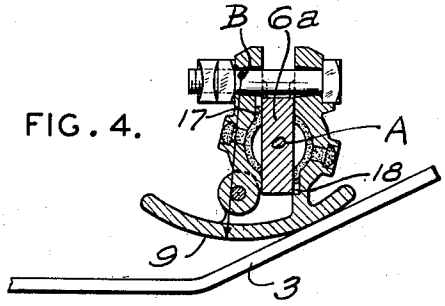


FIG. 3.

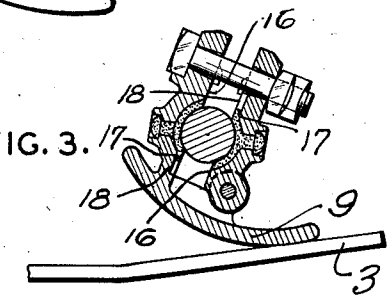


FIG. 5.

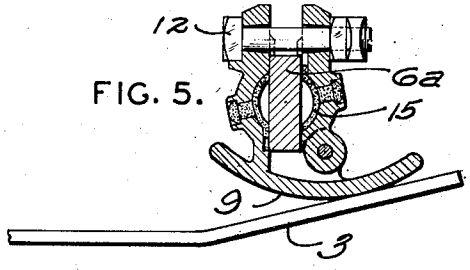
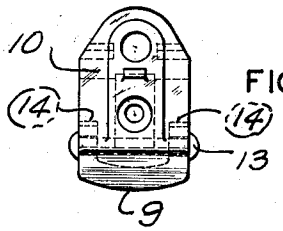


FIG. 6.



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RAILWAY BRAKE BEAM THIRD AND FOURTH POINT SUPPORT

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Application November 14, 1938, Serial No. 240,288

13 Claims. (Cl. 188—213)

The invention relates to railway brake beams and consists in a novel third or fourth point support chair adapted to engage a support arm to guide the beam in its movement to and from the wheels.

Due to variations in details of the truck and brake rigging construction, wear of the parts, distortion of the support arms, etc., it is desirable frequently to adjust the height of the beam relative to the support arm, and one of the objects of the present invention is to facilitate such adjustment by a comparatively simple movement of the chair on the beam.

Another object of the invention is to adapt a chair of this type for brake beam members having different cross sectional contours so that the same chair may be used, for example, on a brake beam tension member consisting of a round rod and on a brake beam tension member consisting of a flat bar and, more particularly, without affecting the relation between the beam and the support arm.

Another object of the invention is to equip an interchangeable chair of this type with a simple friction liner which will provide a more secure assembly of the chair and beam member and avoid relative movement between these parts under the forces arising from the jarring of the truck and the application and the release of the brakes.

These and other detail objects of the invention, as set forth below, are attained by the structure illustrated in the accompanying drawing in which—

Figure 1 is a top view of a truss type brake beam equipped with fourth point support chairs slidably engaging support arms mounted on the usual truck spring plank.

Figure 2 is a vertical section taken on the line 2—2 of Figure 1.

Figure 3 is a detailed section through the support chair showing the same adjusted to a different position relative to the beam and the support arm.

Figure 4 is a similar detailed section of the support chair showing it applied to a brake beam member of different cross section contour than the tension member illustrated in the figures previously referred to.

Figure 5 is a similar section showing chair in reversed position on the beam member.

Figure 6 is a front view of the chair.

Figures 1 and 2 illustrate a spring plank 1 of channel structure to which a bracket 2 is riveted for mounting a support arm 3 and an auxiliary support 4. The brake beam comprises a compression member 5, a tension member 6, a strut 7 and brake heads 8. Tension member 6 consists of a round rod. All the above mentioned parts are of familiar construction and in themselves form no part of the present invention.

Secured to tension member 6 immediately over each support arm 3 is a chair which slidably engages the arm and thereby cooperates with the brake hanger (not shown) to guide the beam in its movement to and from the wheels as the brakes are applied and released. The chair includes a concavo-convex plate-like foot 9 in contact with support arm 3, upstanding legs 10 and 11, which form jaws for receiving the brake beam tension member 6, and a bolt 12 for drawing the legs together to grip the tension member.

Leg 10 is rigid with foot 9 and leg 11 is pivoted at 13 between upstanding flanges 14 on the foot. These flanges are recessed downwardly to provide an open space between the legs extending to a point adjacent foot 9.

The opposing faces of legs 10 and 11 are provided with arcuate recesses to receive the round tension rod 6 and preferably these recesses have liners 15 of rubber or other friction material whereby the chair is held more securely against moving upon the tension member of the beam. These linings are constructed in accordance with the disclosure in Busse Patent 2,067,596 issued January 12, 1937.

The lower convex face of foot 9 which engages the support arm is disposed eccentrically about the axis A of beam tension member 6, which may be termed the axis of the chair jaws. The longitudinal arc defining the chair face is about the center B and the foot is extended on this arc a substantial distance to one side of a perpendicular through axis A. When the chair is moved to different positions about this axis, as indicated in Figures 2 and 3, the eccentricity of the chair foot serves to vary the height of the jaw axis, and the height of the beam tension member, above the support arm. Or the variation may be obtained by reversing the position of the chair on the beam as illustrated in Figure 4. This construction enables a single chair to be adjusted to maintain the desired height of the beam tension member irrespective of variations in the beam mounting elements and support arms due either to inaccuracy in manufacture or to wear of the parts in use.

The opposing straight sided elements 16 of legs 10 and 11 constitute jaws adapted to engage a brake beam tension member 6a of flat bar

section as shown in Figures 4 and 5. The pivoting of the movable leg at the point spaced from the fixed leg and the recessing of flanges 14 to a point adjacent the foot makes possible the application of the chair to a flat bar tension member without increasing the distance between the bottom of the foot and the axis of the tension member. The axis of the flat jaws is the same as the axis of the arcuate jaws.

The friction liners 15 include lips 17, arranged to engage the flat sides of the tension member 6a and the opposing straight sided jaws are recessed at 16 to receive lips 17. One such lip and recess is provided at the lower portion of one jaw and at the upper portion of the other jaw.

By reversing the chair from the position shown in Figure 4 to the position shown in Figure 5, a substantial variation may be effected in the height of the beam axis above the support arm. While this does not permit so many adjustments as is possible when the chair is applied to a round tension member, the arrangement does provide for taking care of a substantial amount of wear in the beam support parts or a substantial variation in the height of the support arm.

It will be understood that the support engaging foot may have a non-curved face for engaging the support arm and that both of the chair jaws may be pivoted to the foot or the chair may be made of sufficient resilient material to have the jaws integral with the foot but yieldable to clamp the tension member of the beam. These and other variations in details of construction may be made without departing from the spirit of the invention and the exclusive use of such modifications as come within the scope of the claims is contemplated.

What is claimed is:

1. A railway brake beam third or fourth point support chair comprising a pair of members movable relative to each other and angularly about the axis of a beam part to which the chair is applied, said members having jaws constructed and arranged to fit and grip selected beam parts of different cross sectional contours, a foot associated with said members and having a support engaging face disposed eccentrically of said axis irrespective of the contour of the beam, whereby shifting the position of said members and jaws about said axis will vary the distance between said axis and the support engaging elements of said foot, said support engaging face being elongated transversely of said axis to provide a suitable support engaging surface in any selected position of the chair.

2. A railway brake beam third or fourth point support chair comprising a pair of members having cooperating jaws for gripping a beam part in different angular positions of the chair relative to the beam part, a foot rigid with one of said members and extending under and pivotally mounting the other of said members to permit the jaws to be moved to and from each other, and having a support engaging face curved transversely of the direction of sliding movement of the chair and disposed eccentrically of the axis of said jaws, whereby shifting the position of said jaws on the beam part about said axis will vary the height of said axis above the support, said face being extended a substantial distance transversely of said axis outwardly from said jaws to provide a suitable support engaging surface in either selected position of the chair.

3. In a railway brake beam third or fourth point support chair, a foot arranged to slidably engage a support arm and comprising a concavo-convex dish-like plate, a leg rigid with and extending upwardly from the concave side of said foot, a leg pivoted to said foot independently of said rigid leg and extending upwardly from said foot alongside of but spaced from said rigid leg, means for drawing said pivoted leg towards said rigid leg to grip a brake beam member between them, the support arm engaging face of said foot being arranged eccentrically of said member engaging portions of said legs whereby the distance between the brake beam member and the support arm may be varied by shifting the chair about said member.

4. A railway brake beam third or fourth point support chair including a support arm engaging foot, and legs extending above the same and spaced apart throughout their length and having opposing contours arranged to provide gripping jaws for fitting against extended areas of brake beam members of different shaped cross sections to which the chair may be applied.

5. A railway brake beam third or fourth point support chair including a support arm engaging foot, and legs extending above the same and spaced apart throughout their length and having parallel opposing flat sections for fitting against and gripping a flat bar member of a brake beam and also having concave arcuate sections between the ends of said flat section for gripping a round bar member of a brake beam.

6. A railway brake beam third or fourth point support chair including a support arm engaging foot comprising a curved plate and legs extending upwardly from said plate and spaced apart throughout their length and forming straight sided jaws adapted to receive between them and to fit against opposite sides of a brake beam member extending downwardly to a point adjacent to said foot, said foot being curved eccentrically about an axis nearer to one end of said jaws than the other to provide for vertical adjustment of the member relative to the support arm when the position of the chair on the beam member is reversed, and said foot being extended laterally beyond the jaw nearer to said axis to provide suitable elongated bearing surface when the chair is so reversed.

7. A railway brake beam third or fourth point support chair having a foot for engaging a support arm, a leg extending upwardly therefrom and rigid therewith, and a leg pivoted to said foot, the lowermost portion of said pivoted leg being spaced from said rigid leg and said legs having extended flat surfaces for fitting against a brake beam flat tension member received between said legs, and means for drawing said legs together to clamp said member.

8. A chair as described in claim 7 in which the legs have opposing concave recesses intermediate their ends to partially surround and grip a round brake beam member between them.

9. A chair as described in claim 4 which also includes yielding lining elements for the chair jaws.

10. A chair as described in claim 5 in which a portion of a flat section of each jaw has a recess adjacent the arcuate section and a yielding lining element is seated in the arcuate section and in said recess.

11. In a railway brake beam third or fourth point support chair, a foot arranged to slidably engage a support arm, a leg rigid with and extending upwardly from said foot, flanges on said

foot, a second leg with its lower end pivoted to said flanges at a point spaced from said rigid leg and extending upwardly to cooperate with said rigid leg to form a pair of jaws for gripping a brake beam round tension member spaced above said flanges and a brake beam flat tension member extending down to said flanges.

12. A railway brake beam third or fourth point support chair including a support arm engaging foot comprising a curved plate and legs extending upwardly from said plate near one end of the latter to form opposing jaws for engaging a brake beam tension member and having a common axis, said plate extending a substantial distance laterally of and outwardly beyond one of said legs in a curve eccentric to said axis, whereby the vertical distance between said axis and the supported part of said foot will be substantially varied when the position of the chair on a brake beam member is reversed.

13. A railway brake beam third or fourth point support chair comprising a pair of members arranged side by side to form cooperating jaws for gripping a brake beam part in different angular positions, a foot rigid with one of said members and extending a substantial distance laterally of and outwardly beyond one of said jaws and having throughout its length a curved bearing surface on an arc, the center of which is spaced laterally from the axis of a beam part gripped between said jaws, whereby shifting the angular position of said jaws on the beam part will vary the height of said axis above the portion of said bearing surface disposed to engage a support arm.

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