April 7, 1936. S. L. EASTBURN 2,036,199

ADJUSTABLE RAIL BRACE

Original Filed Feb. 26, 1931

Fig. 1

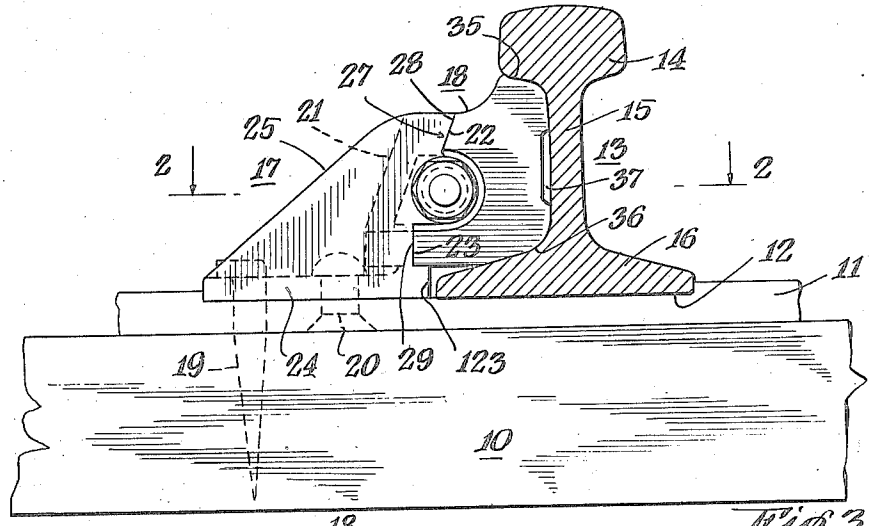


Fig. 2

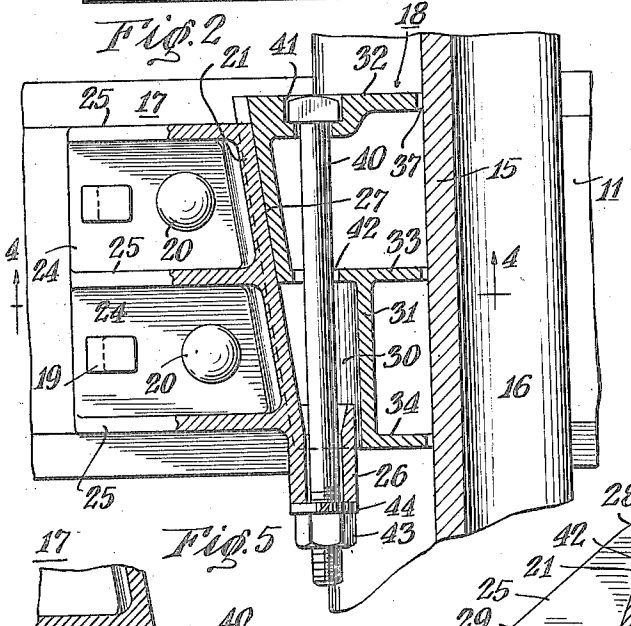


Fig. 3

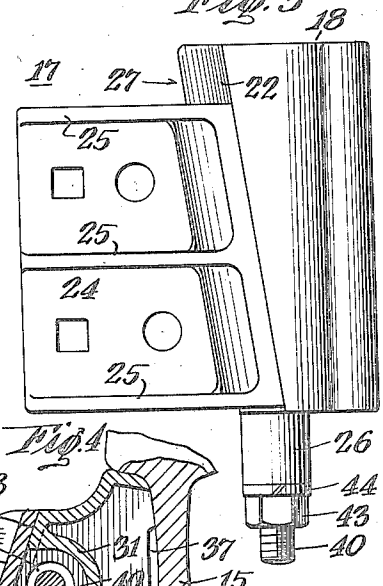


Fig. 4

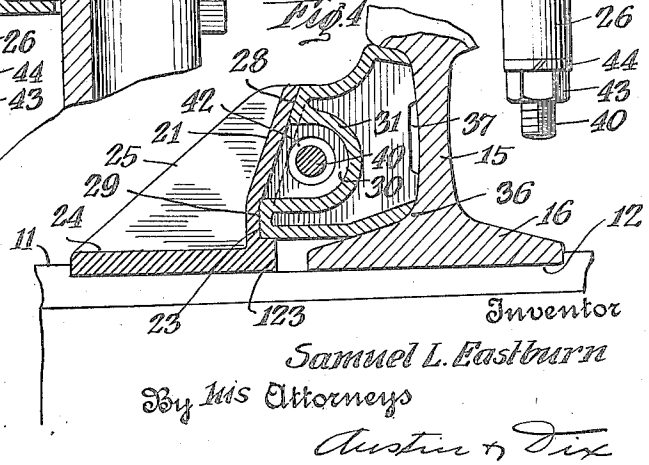
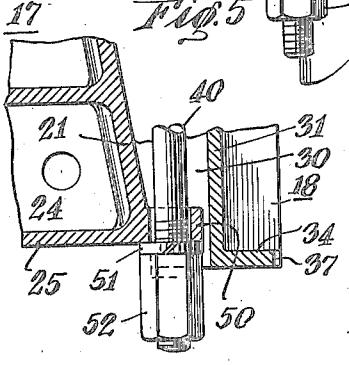


Fig. 5



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Patented Apr. 7, 1936

2,036,199

UNITED STATES PATENT OFFICE

2,036,199

ADJUSTABLE RAIL BRACE

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Application February 26, 1931, Serial No. 518,383
Renewed August 16, 1932

8 Claims. (Cl. 238—292)

The invention relates to railroad track equipment, and more particularly to an adjustable rail brace.

According to one form which the invention may assume, the brace comprises a rail contacting member and a stationary member, said members having tapered contacting surfaces so that the rail may be tightly wedged in position. The contacting surfaces of the members may be tapered both horizontally and vertically to assist in holding the rail in its seat, which may form a part of a tie plate or other suitable structure. One end of the rail contacting member may be made heavy to withstand hammer blows so that this member may be driven to position by a sledge hammer or the like. A suitable adjusting bolt may be provided to hold the parts of the brace in adjusted position, and means may be provided for placing the nut of the bolt in position where it is easily reached by the trackman's wrench.

The invention also consists in certain new and original features of construction and combinations of parts hereinafter set forth and claimed.

Although the novel features which are believed to be characteristic of this invention will be particularly pointed out in the claims appended hereto, the invention itself, as to its objects and advantages, and the manner in which it may be carried out, may be better understood by referring to the following description taken in connection with the accompanying drawing forming a part thereof, in which

Fig. 1 is an end view of the brace engaging a rail;

Fig. 2 is a section on the line 2—2 of Fig. 1;

Fig. 3 is a plan view of the brace;

Fig. 4 is a section on the line 4—4 of Fig. 2; and

Fig. 5 is a section corresponding to Fig. 2 of a modified form of brace.

In the following description and in the claims, various details will be identified by specific names for convenience, but they are intended to be as generic in their application as the art will permit.

Like reference characters denote like parts in the several figures of the drawing.

In the drawing accompanying and forming part of this specification, certain specific disclosure of the invention is made for purposes of explanation, but it will be understood that the details may be modified in various respects without departure from the broad aspect of the invention.

Referring now to the drawing, the railroad tie is indicated by 10, on which rests a tie plate 11 having a seat 12, and a rail 13. The rail 13 may be of standard construction comprising a head 14, web 15 and flange 16.

The adjustable brace comprises a stationary member 17 secured to the tie plate 11 by rivets 20, and to the tie 10 by spikes 19. Located between the stationary member 17 and the rail 13 is the rail contacting member 18.

The stationary member 17 comprises a wedge wall 21 which is inclined lengthwise of the rail, as shown. The wedge wall 21 has a vertically inclined surface 22 and a vertical surface 23 and a bottom shelf, or shoulder 123.

The stationary member 17 has a flat base 24 which is connected to the wedge wall 21 by a plurality of strengthening webs 25. The rivets 20 pass through the base 24, as indicated, as do also the spikes 19.

The rail contacting member or block 18 comprises a wedge wall 27 inclining lengthwise of the rail, which has a vertically inclined surface 28 and a vertical surface 29 fitting and engaging corresponding surfaces 22 and 23, respectively, on the stationary member.

The rail contacting member 18 has a longitudinal recess 30 and a curved wall 31 extending between webs 33 and 34. An additional web 32 is provided at the larger end which is thickened for strength and to provide a recess 41 for the head of bolt 40.

The webs 32, 33 and 34 are shaped to engage fishing surfaces 35 and 36 of the rail, as indicated, and are provided with recesses or clearance spaces 37.

The bolt 40 passes loosely through the web 32, as indicated, and through a large circular hole 42 in web 33. The stationary member 17 is provided with a tubular projection 26 through which the bolt 40 loosely passes. A nut 43 and lock washer 44 are provided on the threaded end of the bolt 40.

To use the adjustable brace, the stationary member 17 is secured to the tie plate and tie, as explained above, and the rail contacting member 18 is placed in the position shown, with the bolt 40 also in the position shown. The rail contacting member 18 is driven by hammer blows on the reinforced web 32 to tightly wedge the rail 13 in its seat 12. The friction between the parts of the adjustable brace serves to hold the parts in wedged position. The workman then draws up on the nut 43 which projects clear of the brace in position so that it can be easily engaged by his wrench. In other words, the adjustable brace is adjusted by hitting with a hammer and held in adjusted position by the bolt 40 and nut 43.

As an alternative way of making the nut accessible, the construction shown in Fig. 5 may be used. In this figure the lug 50 on the stationary member 17 is made smaller and a long nut 52 is used, together with a lock washer 51. Thus, in this construction the nut 52 is accessible so that it can be easily tightened when the rail contacting member 18 is driven home by hammer blows.

Thus, an adjustable brace has been described

which will effectively and surely hold the rail in proper position. The inclined surfaces 22 and 28 assist in holding the rail contacting member 18 down against the flange 16 of the rail, which in turn holds the rail in its seat 12. This construction assists in keeping the rail from lifting from the plate, as sometimes occurs with ordinary braces. The brace is easily adjusted by the trackman simply hitting with the hammer and then taking up the slack on the adjusting nut.

The recess 41 in web 32 protects the head of the bolt 40 from the hammer blows on the web 32 which is purposely strengthened to withstand such blows. Furthermore, the engagement of the flat upper surface on shelf 123 with the rail-contacting member 18 assists in preventing the latter from any tendency to roll.

While certain novel features of the invention have been disclosed and are pointed out in the annexed claims, it will be understood that various omissions, substitutions and changes may be made by those skilled in the art without departing from the spirit of the invention.

What is claimed is:

1. In an adjustable railway brace, a rail contacting member having a wedge portion tapering horizontally and a rail contacting portion, said wedge portion having an upper part tapering vertically and a lower vertical part, said rail contacting member having a horizontal groove and an opening in line therewith, a stationary member adapted to be secured to a tie plate or the like, and having a wedge part fitting and engaging said first wedge part, said stationary member having a shelf fitting under the bottom of said rail contacting member and having a lug in line with said groove and opening, a bolt passing through said opening, groove and lug, one end of said rail contacting member having a recess for the head of the bolt and being strengthened to withstand hammer blows, said lug projecting a substantial distance along the rail to locate the bolt nut in accessible position.

2. In an adjustable railway brace, a rail contacting member having a wedge portion tapering horizontally and a rail contacting portion, said wedge portion having an upper part inclining vertically and a lower vertical part, said rail contacting member having a horizontal groove and an opening, a stationary member adapted to be secured to a tie plate or the like and having a wedge part fitting and engaging said first wedge part and having a part fitting under said rail contacting member, said stationary member having a lug in line with said groove and opening, and a bolt passing through said opening groove and lug.

3. In an adjustable railway brace, a rail contacting member having a wedge part tapering horizontally and a rail contacting portion, said rail contacting member having a horizontal groove and an opening, a stationary member adapted to be secured to a tie plate or the like and having a channeled wedge part fitting and receiving both above and below said first wedge part, said stationary member having a lug in line with said groove and opening, and a bolt passing through said opening groove and lug.

4. In an adjustable railway brace, a rail contacting member having a wedge part tapering horizontally and a rail contacting portion, a stationary member adapted to be secured to a tie plate or the like and having a wedge part fitting and engaging said first wedge part, each said member having a recess into which a portion of the other member fits both over and under said portion, and a fastening element passing through said member and located in one of said recesses.

5. In a railway brace, a pair of adjusting members for bracing the rail, a fastening element passing through said members lengthwise of the rail, one of said members presenting a strengthened part to withstand a hammer blow, said element being protected from said hammer blow and extending beyond the other end of said members to position for easy engagement by a tightening device.

6. In an adjustable brace, a rail contacting block, a block adapted to be attached to a tie or the like, said blocks having contacting inclined surfaces, a bolt passing through said blocks lengthwise of the rail, said rail contacting block presenting a solid surface to be struck with hammer blows, said bolt being protected from said hammer blows and adapted to take up the adjustment and to hold the blocks in adjusted position.

7. In a railway brace, a rail contacting block having transverse webs, the inner edges of said webs having surfaces adapted to engage a rail, said block having a wedge portion which tapers lengthwise of the rail, said wedge portion having an upper surface sloping downwardly and away from the rail and a lower surface substantially vertical and a horizontal bottom surface, said block having a groove, the larger end of said block being made heavy for strength and having a recess for the head of a bolt, a stationary member having a wedge portion with surfaces fitting said first upper and lower parts and said bottom surface, a base flange for attachment to a tie or the like, said second wedge portion having a lug in line with said groove through which said bolt passes.

8. In a railway brace, a rail contacting block having transverse large and small end webs and a middle web, the inner edges of said webs having fishing surfaces adapted to fit under the head and over the flange of a rail, said block having a wedge portion which tapers lengthwise of the rail, said wedge portion having an upper surface sloping downwardly and away from the rail and a lower surface substantially vertical and a horizontal bottom surface, said block having a curved wall between said middle web and smaller end web forming a groove, said larger end web being made heavy for strength and having a recess for the head of a bolt, said central web having a large hole for said bolt, a stationary member having a wedge portion with upper and lower surfaces fitting said first upper and lower surfaces and a shelf having an upper surface fitting said bottom surface, a base flange for attachment to a tie or the like, a plurality of strengthening webs between said flange and second wedge portion, said second wedge portion having a lug in line with said groove through which said bolt passes, and a nut on said bolt projecting beyond the end of the brace, whereby said rail contacting member may be struck with a hammer or the like to tighten the brace and the slack taken up by said nut.

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