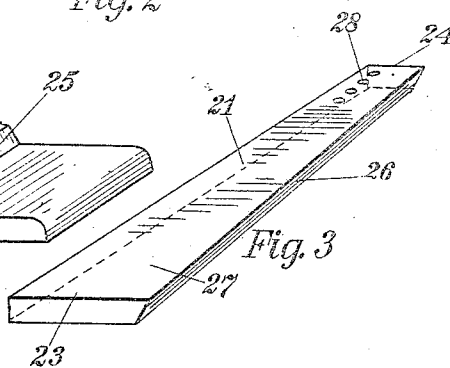
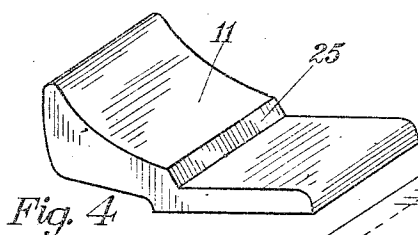
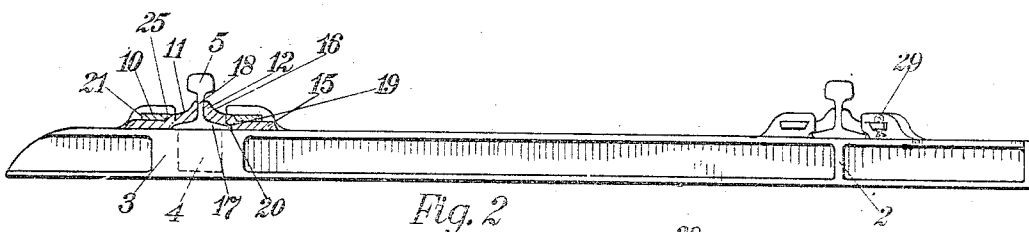
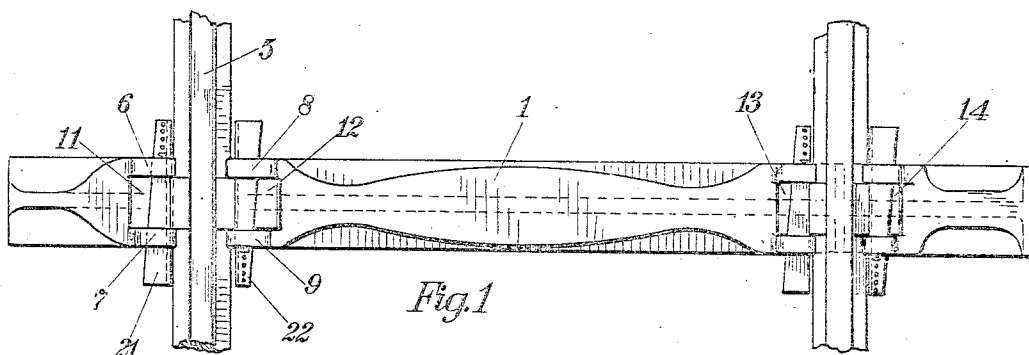


J. TIMMS.
RAILROAD RAIL FASTENING DEVICE.
APPLICATION FILED MAR. 5, 1909.

934,583.

Patented Sept. 21, 1909.



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UNITED STATES PATENT OFFICE.

JAMES TIMMS, OF COLUMBUS, OHIO.

RAILROAD-RAIL-FASTENING DEVICE.

384,582.

Specification of Letters Patent. Patented Sept. 21, 1909.

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To all whom it may concern:

Be it known that I, JAMES TIMMS, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Railroad-Rail-Fastening Devices, of which the following is a specification.

My invention relates to improvements in railroad rail fastening devices, especially to the means of securing the rail to the tie; I employ a metallic tie of the desired shape and construction, and provide thereon key holding lugs; the rail is adapted to be held in position by clips positioned on both sides thereof, and the clips are maintained in proper engagement with the rail by means of sliding keys engaging the lugs, whereby the rail may be positioned in a lateral direction, in accordance with the desired gage, and the keys are so formed that all wear on the clips and other parts due to the operation of the road may be compensated for thereby and the clip will always be held in snug engagement with the rail. Essentially, I provide a key having a bevel face and by its use I compensate for wear on the parts due to operation, regardless of the point where the wear occurs. In other railroad rail fastening devices, the great objection has always been that after a brief period of usage, the parts are not capable of snug engagement with the rail and the latter consequently is given a degree of play which renders the operation of the road uncertain and dangerous. My improved means for fastening compensates for wear on any of the parts, and maintains the contact between the rail and the tie firm at all times. It is easily adjusted and locked in position when the proper degree of adjustment is attained.

In the accompanying drawings which are hereby made a part of this specification, Figure 1 is a plan view of a tie with the rails in position thereon secured by my improved devices; Fig. 2 is a side view of the construction shown in Fig. 1, a vertical transverse section being made through the fastening device for one of the rails; Fig. 3 is an enlarged perspective of the locking and adjusting key; Fig. 4 is an enlarged view of a clip.

In the drawings, 1 is a metallic tie having the form desired and the metal distributed therethrough as the circumstances require, and in the particular form shown in Fig. 2,

it is noted that a narrow vertical web 2 is formed at the point of the tie where the rail would rest when in place, whereas on the opposite end a very wide vertical web 3 is formed upon which the rail is adapted to be positioned; I have also shown in Fig. 2, a cushion or filler member 4 inserted in an appropriate opening formed in the tie, and upon this filler member the rail 5 is adapted to rest. I have shown both forms of construction in the same tie for convenience, it being understood that in practice the two ends of the tie would be ordinarily formed to be identical. On the tie adjacent to the end thereof I provide two pairs of lugs, 6 and 7, and 8 and 9, so positioned that the rail 5 may be received between them transversely of the tie 1; I may form these lugs in any desired way, and provide in each a transverse opening which appears at 10. At the other end of the tie the construction of this portion is identical and need not be further described.

After the rail is positioned, I place between the lugs of each pair a clip, those adapted for use with the rail 5 being shown at 11 and 12; similar clips 13 and 14 are provided for the other rail. The clip is formed with a portion 15 to rest upon the upper face of the tie 1 and a curved irregularly shaped portion 16 which is adapted to overlie the lower flange 17 of the rail and to engage the vertical web 18, the shoulder 19 of the clip being adapted to abut against the edge 20 of the flange 17. The clip 11 is positioned in a manner identical with that of clip 12 on the other side of the rail, and through the openings 10 in the oppositely disposed pairs of lugs are inserted key members 21 and 22, the key 21 impinging upon the upper face of the clip 11, and as the key is pushed into position, the upper face thereof will engage the upper face of the openings 10 in the lugs 6 and 7, and will bear upwardly thereagainst. It is seen that the wedge 21 is tapered or made wider at one end 23 than it is at the other end 24, but that the thickness thereof is maintained the same throughout. It will be further noted that a shoulder 25 is formed upon the clip 11 on its upper face, and the inner edge of the wedge 21, engaging against this shoulder, tends to push the clip 11 toward the rail. The effect of this inward movement of the wedge 21 will therefore be to tend to move the rail laterally, and if the wedge 22 on the op-

posite side of the rail is not in position, the rail may be moved a slight distance, and after the proper point has been reached the wedge on the opposite side may be inserted, 5 and pushed to engaging position, and the rail will thereby be located as desired and the gage of the track determined. It sometimes happens in the operation of the road that on account of the play of the parts or 10 for other reasons, the gage has become slightly altered, and this manipulation of the wedges will adjust the same to the proper degree.

The inner edge 26 of the wedge is inclined 15 or beveled, and when the wedge is in proper position in place, the wider face 27 thereof is above; in this position the face 26 engages the shoulder 25 of the clip, and inward movement of the wedge exercises a double effect 20 upon the clip, namely, it moves the same laterally, thereby driving it into engagement with the vertical web of the rail, and also exerts a downward pressure thereon, the bevel edge 26 of the wedge tending to mount 25 the oppositely inclined face of the shoulder 25 of the clip. In the operation of the road, much lateral stress is exerted upon the rail, especially if it is located on a curve, and the effect of this lateral stress exerted thereon 30 frequently, and sometimes for rather long periods, is to cause the lower flange on the rail to exert a lifting influence upon the clip, the influence ceasing when the train has passed on. This condition being frequently 35 repeated, will in time wear away the lower face of the clip which bears against the tie and the curved face of the clip bearing against the rail itself and the openings in the lugs tending to widen the opening in a 40 vertical direction. This causes an undue amount of play in the rail, and to remedy this condition I provide the beveled inner face of the wedge, which by tending to mount the shoulder 25 as the wedge or key 45 is pushed inwardly, lifts the key up into snug engagement with the upper faces of the openings in the lugs 5 and 7, and at the same time crowds the clip into snug engagement with the rail, thereby compensating for all 50 wear that may have taken place during the operation.

Openings 28 are provided in the key or wedge near its narrower end, through an appropriate one of which a cotter pin 29 may 55 be inserted to hold the key in the position to which it has been moved. It is seen that the key or wedge 21 is readily positioned and removed, the keys on the opposite sides of

the same rail being capable of reciprocal adjustment as desired. It is further noted that 60 the wedge or key may be used not only for positioning the rail in a lateral direction, and for taking up wear incident to use, but also, when properly positioned, locks the part together, until usage renders another 65 adjustment necessary.

I am aware that wedges or keys have been used for positioning and locking railroad rails to the tie, but I know of no key which is capable of effecting the snug engagement 70 of the clip with the rail after the parts have become worn through use; the capacity to perform this function is highly desirable and very valuable in railroad operation, and I believe that the provision of the bevel contact 75 edge on the key and the oppositely disposed bevel shoulder on the clip with which the bevel edge of the key is adapted to engage, furnishes a rail fastening construction which is free from the defects hitherto ob- 80 served.

In the foregoing description I have described the construction and operation of one key, and the associated parts, but it will be understood that the other keys used are identical in their construction and operation. 85

I desire to limit myself only in accordance with the scope of the appended claims.

What I claim is:

1. A railroad rail fastening device comprising a tie, lugs mounted thereon having transverse openings therein, a clip member positioned between said lugs and having a shoulder formed thereon, and a key member adapted to be inserted through said openings 95 to engage said clip with its lower face, the inner edge of said key member being beveled to engage said shoulder.

2. A railroad rail fastening device comprising a tie, lugs arranged transversely 100 thereon in pairs having registering openings therethrough, a rail holding clip having a shoulder formed thereon and adapted to be positioned on said tie between said pair of lugs, a sliding tapering key member adapted 105 to be inserted through said openings to bear vertically upon said clip and having its inner edge inclined to engage said shoulder to exert both lateral and vertical stress thereon. 110

In testimony whereof I affix my signature in the presence of two witnesses.

JAMES TIMMS.

Witnesses.

GEO. W. RIGHTMIRE.

HORACE S. KERR.