

J. W. DEAN.
RAIL TIE.
APPLICATION FILED MAR. 3, 1911.

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Patented Aug. 13, 1912.

Fig. 1.

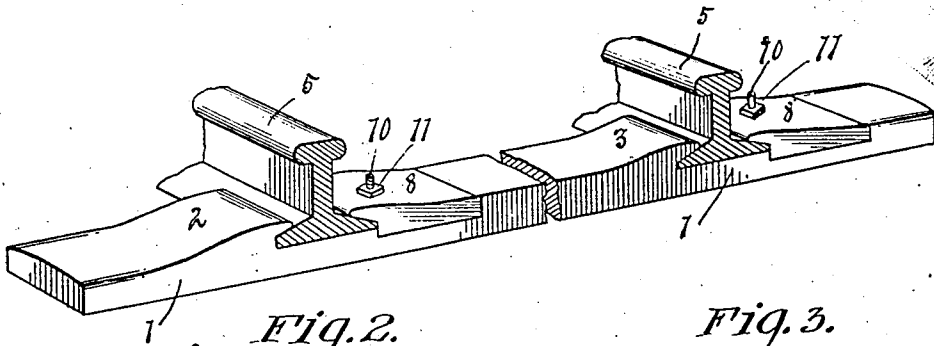


Fig. 2.

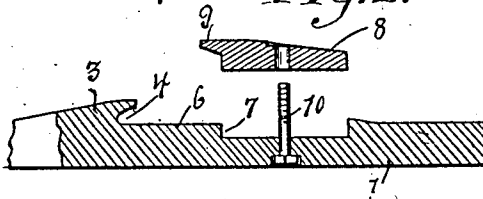


Fig. 3.

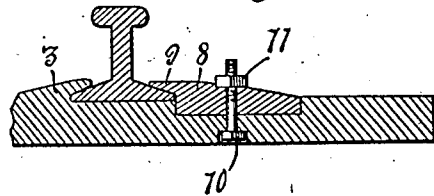


Fig. 4.

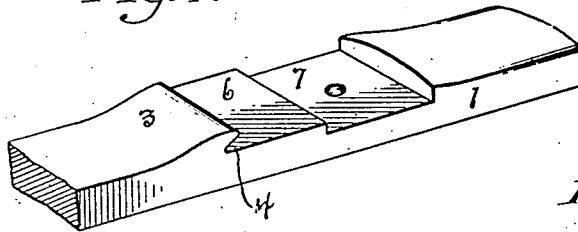
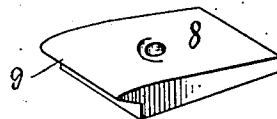


Fig. 5.



Witnesses

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RAIL-TIE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN W. DEAN, a citizen and subject of Great Britain, residing at Lunenburg, in the county of Lunenburg and Province of Nova Scotia, Canada, have invented new and useful Improvements in Rail-Ties, of which the following is a specification.

My invention relates to railroad ties and more particularly to a metallic tie adapted to be made with a solid base and having recesses therein so constructed as to receive the base flange of the rail within said recesses, said rail being locked in place by a removable block which is preferably counter-sunk into the base of the tie, whereby all lateral movement of the rail and spreading thereof are prevented.

More specifically stated my invention comprises improvements on the tie shown in Patent Number 292,421 granted to J. J. Du Bois on January 22, 1884. Because of the peculiar shape of the locking blocks D in said patent, and the under-cut formation of the recesses in which said blocks are set, it is impossible to insert said blocks after the rails are in place except by sliding them in from one side of the tie. The inefficiency of this method of locating them will be more readily understood when it is pointed out that it prevents the locking bolts E from being inserted before the tie is laid, and necessitates the raising of the tie or the undermining of the road bed before said bolts may be placed in position.

It is the primary object of my invention to overcome these objections to the Du Bois tie and to provide a construction, which may be easily operated and thus save considerable time in the laying of the tie which would be lost were the Du Bois tie used. I accomplish this result by making the locking blocks of a different form and shape, so as to permit the locking bolts to be placed in position before the tie is laid. Other differences of construction will be brought out more clearly hereinafter.

Further objects of my invention are to provide a tie which may be manufactured at a low cost and which shall absolutely prevent the rails from spreading except through the natural expansion and contraction of the tie caused by heat and cold, and to construct a tie which because of its simplicity and rigidity will be more effective and durable than those which have heretofore been em-

ployed. Moreover it will be seen upon reference to the drawings that I have provided a tie which may be easily "shipped" thus preventing the necessity of removing, raising or bending the rails when it is desired to replace an old tie with a new one, this result being accompanied by the construction shown by which the locking blocks are arranged so as both to fall on the same side of adjoining rails, and also by the fact that the keepers formed integral with the base both point in the same direction and extend out over a raised portion whereby the necessity of raising and lowering the rail is obviated.

With the foregoing and other objects in view my invention consists in such details of construction and in the arrangement and combination of parts as will be hereinafter more fully described and specifically pointed out in the appended claim.

In describing my invention in detail reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which—

Figure 1 is a view in perspective of my improved tie a section thereof being broken from the central portion in order to permit said tie to be illustrated in detail. Fig. 2 is a longitudinal, sectional view of one end of the tie showing the locking block about to be placed in position, the rail being omitted. Fig. 3 is a view similar to Fig. 2 with the rail and locking block in position. Fig. 4 is a perspective view of one end of my improved tie showing the formation of the recesses therein, and Fig. 5 is a perspective view of a locking block.

In reducing my invention to practice I construct a tie having a solid base 1. It will be understood that any desired material adapted for the purpose may be employed as my invention does not comprehend any particular substance. It will also be understood that this base may be made of any thickness preferred or length desired, in order to conform with the requirements of particular circumstances and in order to make the tie of any desired weight. The thickness of the base is increased at the points 2 and 3 which portions are so constructed as to permit recesses 4 to be cut therein without decreasing the strength of the tie. The recesses 4 are under-cut as shown in order to receive the base flange of a rail 5. Said rail rests upon a raised table

or bed 6 which bed is approximately of the width of the base flange. Recesses 7 are formed in said base, which recesses are of any desired size, they extending from the edge of the table or bed 6 for any desired distance. Contrary to the shape of the recesses in Patent Number 292,421 above mentioned I form these recesses with vertical sides in order that locking blocks 8 may be positioned therein without the necessity of sliding said blocks into place from one side of the tie, as will be readily seen upon reference to Figs. 2 and 3. Said locking blocks have one edge extended at an upper portion thereof so as to form the projecting lip 9, which fits over the base flange of the rail it thus acting in conjunction with the undercut recesses before mentioned in locking said rail in place.

Bolts 10 extend upwardly through the base of the tie and pierce the locking blocks as shown so as to permit nuts 11 to be applied thereto, thus locking said blocks securely in position. It will be understood that any other fastening means than bolts may be used as desired, and that the bolts may be of any desired type as can also the nuts in order to prevent said nuts from working loose or from being removed.

It will be seen from the foregoing that inasmuch as the sides of the recesses 7 and the blocks 8 are vertical the latter may be inserted in said recesses by passing them downwardly over the bolts 10 thus obviating the necessity of a sliding movement such as that necessarily employed in the patent above referred to. Inasmuch as the blocks 8 are disposed in recesses below the level of the base flanges of the rail all lateral movement of said blocks is prevented, thus locking the rails and preventing them from spreading apart. This countersunk construction also prevents the possibility of the blocks turning upon the bolts, for it provides solid walls at two ends of the blocks and prevents the latter from moving upon the base flange of the rail which movement would of course cause more or less wear.

From the foregoing it will be seen that I have provided a rail tie which is simple and which may be cheaply manufactured, but which at the same time is highly efficient and will rigidly hold the rails in place. Because

of its simplicity of construction and its advantages over the tie covered by the before mentioned patent, it requires little time for laying and may be easily "shipped" and fastened in place without unnecessary delay or trouble.

I desire it to be understood that slight changes in the construction and in the arrangement and combination of the several parts may be resorted to without departing from the spirit of my invention, provided such changes fall within the scope of the appended claims.

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

In a device of the character described, a solid base, said base provided with thickened portions, one of said thickened portions being near one end, the other being spaced a considerable distance from the other end, said thickened portions provided with undercut recesses, beds adapted to receive the base flanges of rails adjacent to said undercut recesses, said beds being in the same horizontal plane as the upper surface of said base, other recesses of greater depth adjacent to said beds, said last named recesses having vertical sides, locking blocks adapted to be positioned within said second named recesses, said locking blocks having perpendicular sides, one end of said locking blocks adapted to lie flush with the upper surface of said base portion, extensions formed upon the other ends of said locking blocks adapted to extend over the base flange of rails, said base flanges engaging one of their vertical sides, bolts adapted to extend through said base portion and through said locking blocks, said base portion provided with cut-out portions for the reception of the heads of said bolts, whereby they lie flush with the underside thereof, nuts adapted to be secured upon the upper ends of said bolts, semi-circular cut-out portions formed upon said locking blocks for the reception of one side of said nuts, whereby said nuts lie flat upon the same thereby locking the said rails in place for the purpose described.

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Witnesses:

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