W. McKEE.

TIE PLATE.

APPLICATION FILED NOV. 22, 1909.

958,271. Patented May 17, 1910.

Fig. 1.

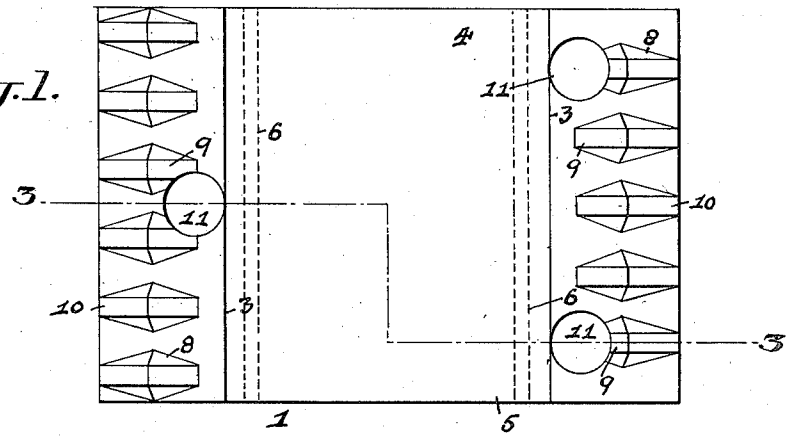


Fig. 2.

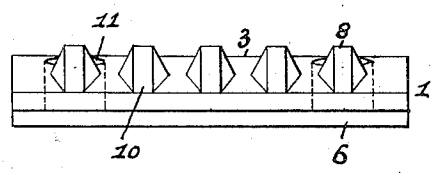
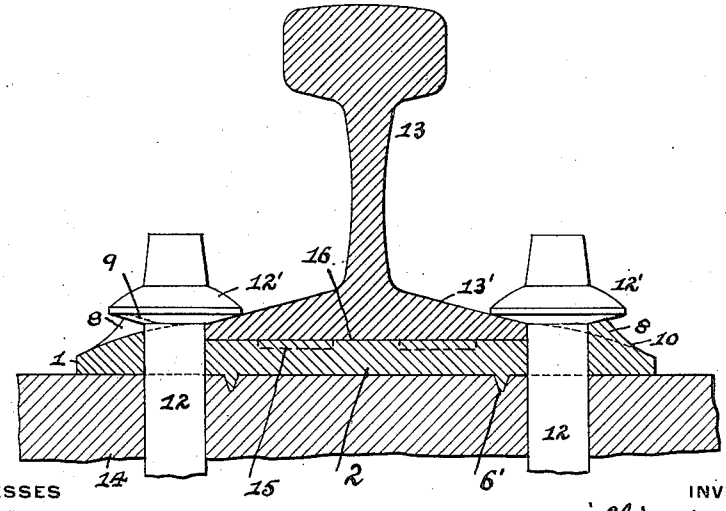


Fig. 3.



WITNESSES

O. L. Thompson,

James L. Wehn.

INVENTOR

Willis McKee,

By J. N. Cooke,

Attorney.

UNITED STATES PATENT OFFICE

WILLIS McKEE, OF ELYRIA, OHIO, ASSIGNOR TO ELYRIA IRON AND STEEL COMPANY, OF ELYRIA, OHIO, A CORPORATION OF OHIO.

TIE-PLATE.

958,271. Specification of Letters Patent. Patented May 17, 1910.

Application filed November 22, 1909. Serial No. 529,397.

To all whom it may concern:

Be it known that I, WILLIS MCKEE, a resident of Elyria, in the county of Lorain and State of Ohio, have invented a new and useful Improvement in Tie-Plates; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to tie-plates and such as are used in connection with railway rails for fastening such rails to the ties under the same.

The object of my invention is to provide a cheap, simple and efficient form of a tie-plate for railway rails, which can be manufactured by rolling in a rapid, easy and convenient manner and will provide for the proper supporting of the rail used on such plates, as well as such a plate which will hold spikes and rail in proper position, and will provide means for the proper supporting of the heads of the spikes employed therewith, particularly what are known as screw-spikes, when used in connection therewith and at any position on the same along the edge of the rail.

My invention consists, generally stated, in the novel arrangement, construction and combination of parts, as hereinafter more specifically set forth and described and particularly pointed out in the claims.

To enable others skilled in the art to which my invention appertains to construct and use my improved tie-plate, I will describe the same more fully, referring to the accompanying drawing, in which—

Figure 1 is a top plan view of my improved tie-plate. Fig. 2 is an end view of the same. Fig. 3 is a section of the plate on the line 3—3 Fig. 1 and showing the same in position on a tie and supporting a rail.

Like symbols of reference herein indicate like parts in each of the figures of the drawing.

As illustrated in the drawing, 1 represents my improved tie-plate, which is preferably formed by rolling the same from a bar or billet of metal, such as steel into lengths, and then such lengths are severed by being cut across the same in any suitable manner to form such plate. The tie-plate 1 when so rolled or formed is provided with the body portion 2 having the longitudinal rail-abutting shoulder 3 at each end of the same and extending up from the top surface 4 on said body, forming the rail seat 5 between such shoulders and on said surface. Depending ribs or flanges 6 are also formed longitudinally of the tie-plate 1 and on the bottom surface 7 of the body portion 2 and are preferably of triangular shape with sharpened edges, as at 6′ for entering the tie in the usual manner when in position thereon, as hereinafter described. The tie-plate 1 is also provided with a series of bosses 8 which project upwardly from the top surface 4 on the body portion 2 of said plate and at the outer ends of the same beyond the shoulders 3. These bosses 8 extend longitudinally along the entire upper surface 4 of the plate 1, with preferably the bosses on one end being staggered with those on the other end, and they have their inner faces 9 extending at an upward and outward incline from their inner edges, while the outer faces 10 of the same are preferably sloped downward from the outer edges of the faces 9 to the outer edges of the plate 1 to lighten the same.

In the rolling operation of forming my improved tie-plate 1, the metal is rolled from a billet or bar into lengths, with the upper roll (not shown) forming the shoulders 3 and bosses 8 for each end or side of the plate and upon the upper surface 4 of the same and adjacent to and beyond said shoulders, while the flanges 6 are formed on the lower surface 7 of the plate by the lower roll (not shown). After the bar has been so formed to shape, it is cut or sheared across the same and preferably between the bosses 8 on each end of such bar to form the plates 1. Spike-holes 11 can be formed in the bar after it is so made or in the plates 1 after being cut from said bar or during the operation of cutting, as desired, and these holes can be formed in any number along the ends of the plate 1 so made from such bar by punching, drilling or in any other suitable manner, and in the position for the insertion of the screw-spikes 12 within the same for the engagement of the spike-heads 12′ with the rail base 13′ on the rail 13, when such rail is placed in position in the seat 5 between the shoulders 3 on said plate, as shown in Fig. 3. These spikes 12 in passing through the holes 11 in the plate 1 are screwed into the tie 14 and the inner portions of their heads 12′ bear against the top of the rail flange or base 13′, while their outer portions bear against and have a line contact with

the inner inclined faces 9 on the bosses 8 on said plate, according to the positions of said holes within such plate, and thereby reinforce the back of the heads on such spikes.

The bosses 8 on each end of the plate 1 are placed as close as possible to each other so that the bar or plate can be punched for the holes 11 at any point for the spikes 12, and such holes can be varied in number on each end of the plate and their positions changed on such ends, as desired.

If desired, the upper surface 4 of the plate 1 can be provided with depressions 15 to form broad bearing surfaces 16 on said surface for the rail 13, as shown by dotted lines in Fig. 3 and various other modifications and changes in the design and construction of my improved tie-plate may be resorted to, without departing from the spirit of the invention or sacrificing any of its advantages.

It will thus be seen that in my improved tie-plate the arrangement for supporting the backs of the spike-heads will back up such heads more efficiently than in the usual constructions of this class by reason of such bosses being properly located with respect to the rail at all times, although the location of the spikes with respect to the bosses may vary, and the spike-holes in some cases being both opposite and between the bosses will enable such bosses to form a more satisfactory bearing for the spike-heads than in ordinary cases by the bar being so rolled that there is proper backing up for such heads at any and every place along the bar. It will also be seen that in my improved tie-plate the arrangement of the spike supporting bosses will prevent any collection of water or brine on the plate and will also prevent any water or brine from running down the spike holes, which will thereby overcome any possible rottening of the tie under the same and so preserve the life of such tie.

The bar from which my improved tie-plate is formed will enable such plates to be rolled in continuous lengths and then sheared or cut from such bar, while the formation of such plate will enable the easy and rapid rolling of such bar, and permit the tie-plates to be formed therefrom rapidly and conveniently, so that with the formation of the spike-holes within the same the tie-plates are ready for instant marketing and use with the rails and ties.

What I claim as my invention and desire to secure by Letters Patent is—

1. A rolled tie-plate for rails having a rail-abutting shoulder on the upper surface of the plate, and a series of rolled bosses along said surface and beyond said shoulder for bearing against the back of the spike-heads which bosses being so arranged as to form a line contact with the back of the spike-heads to reinforce the same in whatever position the spike-hole may be located.

2. A rolled tie-plate for rails having a rail-abutting shoulder on the upper surface of the plate, and a series of rolled bosses along said surface and beyond said shoulder for bearing against the back of the spike-heads, said bosses being provided with upwardly and outwardly inclined bearing surfaces for said heads, and such bosses so arranged as to form a line contact with the back of the spike-heads to reinforce the same in whatever position the spike-hole may be located.

3. A tie-plate for rails having holes within the same for the reception of screw-spikes, a rail-abutting shoulder on each side of the upper surface of the plate, and a series of bosses along each side of said surface and beyond said shoulders for bearing against the back of the spike-heads, and the bosses on one side being staggered with those on the other side and so arranged as to form a line contact with the back of the spike-heads in any position of said holes to reinforce the same.

4. A tie-plate for rails having holes within the same for the reception of screw-spikes, a rail-abutting shoulder on each side of the upper surface of the plate, and a series of bosses along each side of said surface and beyond said shoulders for bearing against the back of the spike-heads, said bosses being provided with the upwardly and outwardly inclined bearing surfaces for said head, and the bosses on one side being staggered with those on the opposite side and so arranged as to form a line contact with the back of the spike-heads in any position of said holes to reinforce the same.

In testimony whereof, I, the said Willis McKee, have hereunto set my hand.

WILLIS McKEE.

Witnesses:
L. A. Obitts,
L. J. Boothroyd.