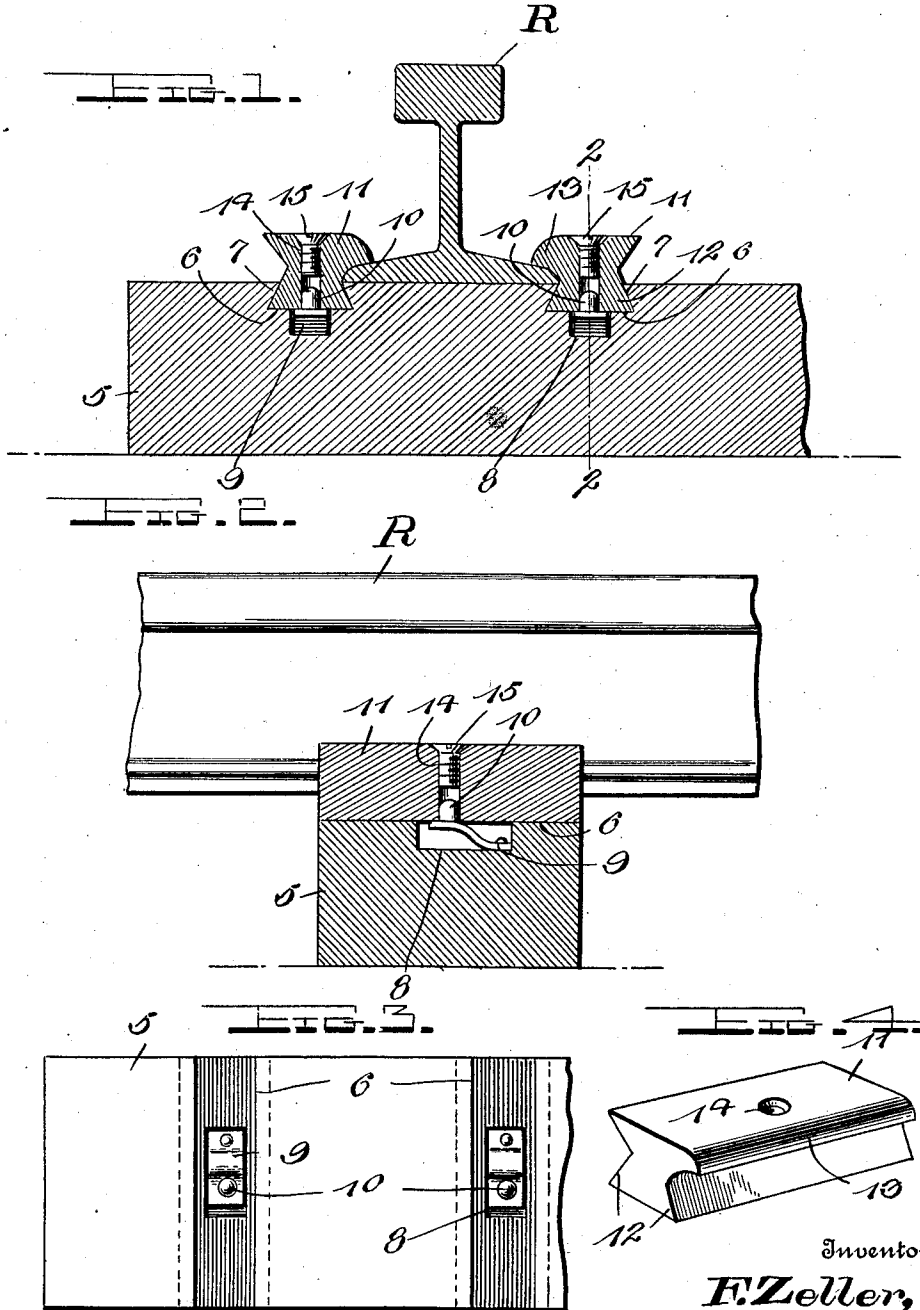


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STEEL TIE AND RAIL FASTENER.  
APPLICATION FILED MAY 22, 1912.

1,037,403.

Patented Sept. 3, 1912.



Witnesses

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# UNITED STATES PATENT OFFICE.

FRITZ ZELLER, OF RENTON, WASHINGTON.

STEEL TIE AND RAIL-FASTENER.

1,037,403.

Specification of Letters Patent.

Patented Sept. 3, 1912.

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*To all whom it may concern:*

Be it known that I, FRITZ ZELLER, a citizen of the United States, residing at Renton, in the county of King and State of Washington, have invented certain new and useful Improvements in Steel Ties and Rail-Fasteners, of which the following is a specification, reference being had to the accompanying drawings.

10 This invention relates to improvements in rail fasteners and has for its primary object to provide means for easily, quickly and securely fastening rails upon metal ties so as to prevent spreading thereof.

15 A further object of the invention resides in the provision of a fastening device for rails which may be easily and quickly arranged upon or removed from the tie to permit of the substitution of new rail sections, said fastening members being capable of re-use upon the substitute rails.

20 Still another object of the invention is to provide a device for the above purpose which is strong and durable in construction, highly efficient in practical use and may be manufactured at comparatively small cost.

25 With the above and other objects in view as will become apparent as the description proceeds, the invention consists in certain constructions, combinations and arrangements of the parts that I shall hereinafter fully describe and claim.

30 For a full understanding of the invention reference is to be had to the following description and accompanying drawing, in which—

35 Figure 1 is a longitudinal section of one end of a metallic tie showing a rail secured thereon by means of my improved fasteners. Fig. 2 is a section taken on the line 2—2 of Fig. 1; Fig. 3 is a top plan view of the tie; and Fig. 4 is a detail perspective view of one of the fastening members.

40 Corresponding and like parts are referred to in the following description and designated in the accompanying drawing by like reference characters.

45 Referring in detail to the drawing 50 designates a metal tie which may be constructed of steel or cast iron and is provided in its upper surface and at each end with spaced parallel transverse channels 6. The side walls of these channels are undercut or oppositely beveled as shown at 7, and in the base of the channel, centrally thereof

a longitudinally extending recess 8 is formed. A spring plate 9 is arranged in this recess and is rigidly fixed at one of its ends while upon the other end of this plate 60 a stud 10 is secured and projects upwardly above the base of the channel 6.

In the channels of the tie the fastening members 11 are adapted to be fitted, each of said members being in the form of a steel 65 block having a longitudinally extending dove-tail portion 12 to be received in the channels of the tie and engage the undercut side walls thereof. These fastening blocks are also provided with the rail engaging flanges 13 which are adapted to engage with the base of the rail R as clearly shown in Fig. 1. The blocks 11 have vertical openings 14 formed therein, the upper 70 portions of which are threaded to receive the threaded bolts or screws 15. In the lower ends of these openings the studs 10 upon the spring plates 9 which are arranged in the base of the channels 6 are adapted to be received.

80 From the above description, the manner of application of my improved rail fastening members will be clearly understood. After the rail has been arranged upon the tie between the channels 6 thereof, the fastening members are moved longitudinally in 85 said channels in which movement the studs 10 will be forced downwardly into the recesses 8 in the base of the channels until the fastening members have been entirely disposed in said channels, when the springs 9 will force the studs 10 upwardly into the lower ends of the openings 14 in said members. These studs securely hold the fastening members against longitudinal movement 95 so that the rail is retained in its proper position upon the tie and held against lateral spreading movement. After the fastening members have thus been arranged upon the tie and rail, the screws 15 are threaded 100 into the upper ends of the openings 14 to close the same. Thus when it is necessary to remove a rail section which has become unduly worn in order to substitute a new section therefor, the screws 15 may be readily 105 removed from the fastening members and the studs 10 forced downwardly by means of a suitable implement so as to permit of the longitudinal movement of the fastening members in the channels 6 of the tie and 110 their disengagement from the base of the rail.

A rail fastener constructed as above described, may be easily and quickly arranged in its effective position upon the rail and tie, and will securely retain the rail thereon.

5 Owing to the simplicity of the device it will be obvious that the same can be produced at comparatively small cost, and is strong and durable in practical use.

10 While I have shown and described the preferred construction and arrangement of the various elements, it will be obvious that the invention is susceptible of considerable modification without departing from the essential features or sacrificing any of the  
15 advantages thereof.

Having thus described the invention what is claimed is:

1. The combination with a tie having transverse channels in its upper surface, of  
20 fastening members adapted to be received in said channels, and provided with flanges to engage with a rail base, said members being also provided with vertical openings, the bases of said channels having recesses  
25 therein, and spring pressed studs arranged

in said recesses to be received in the lower ends of said openings.

2. The combination with a tie having spaced transverse channels in its upper surface, of fastening members adapted to be  
30 arranged in said channels and provided with flanges for engagement with a rail base, said fastening members being also provided with central vertical openings, the bases of the channels in said tie having longitudinal  
35 recesses therein, spring plates arranged in said recesses and fixed to the tie at one of their ends, studs on the other ends of said spring plates to be received in the lower  
40 ends of the openings in said fastening members, and screws adapted to be threaded in the upper ends of said openings to close the same.

In testimony whereof I hereunto affix my signature in the presence of two witnesses. 45

FRITZ ZELLER.

Witnesses:

JOHN E. MARLOW,  
ADOLPH BRONSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."