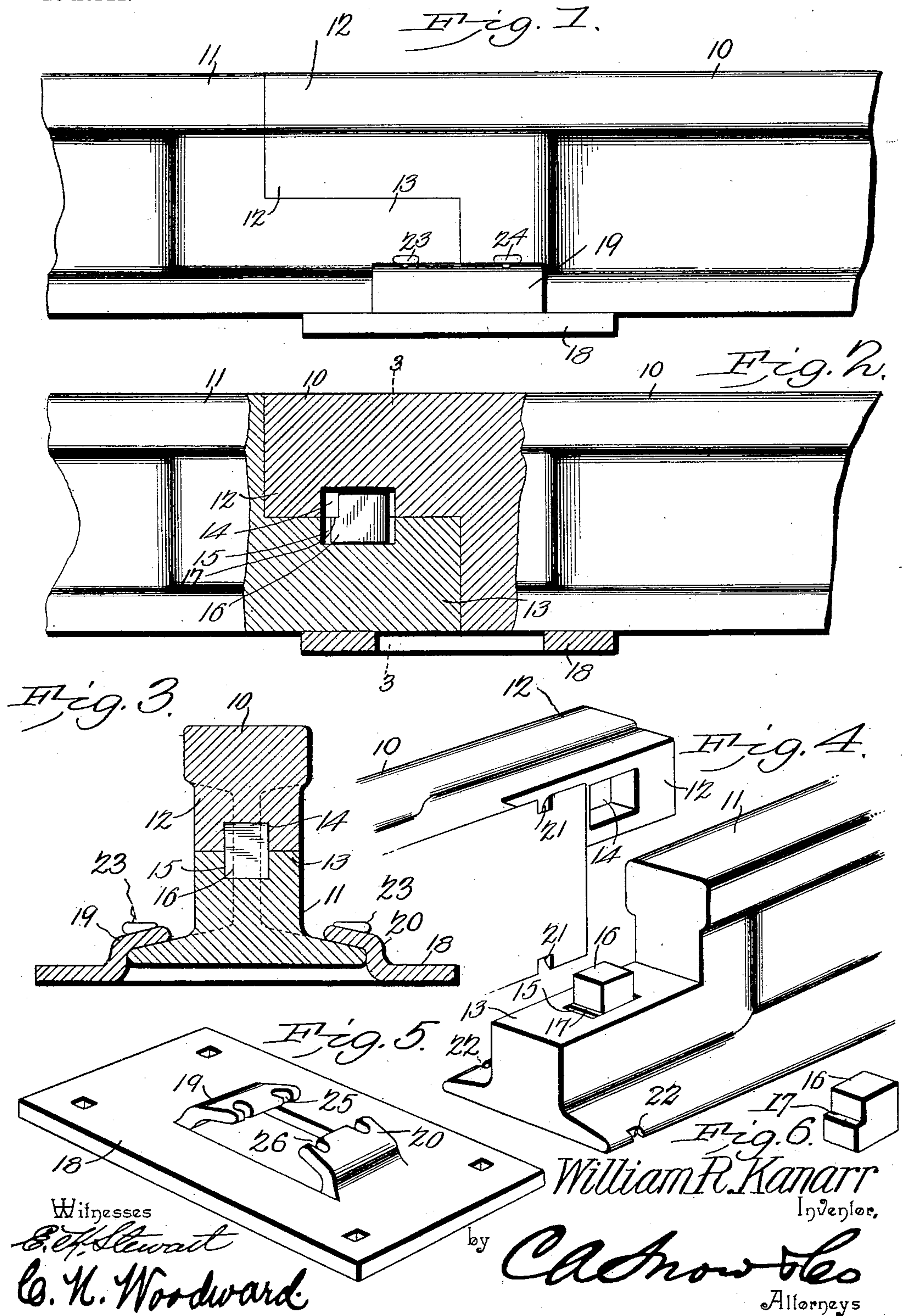


No. 750,859.

PATENTED FEB. 2, 1904.

W. R. KANARR.  
RAILWAY RAIL JOINT.  
APPLICATION FILED OCT. 27, 1903.

NO MODEL.





# UNITED STATES PATENT OFFICE.

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## RAILWAY-RAIL JOINT.

SPECIFICATION forming part of Letters Patent No. 750,859, dated February 2, 1904.

Application filed October 27, 1903. Serial No. 178,755. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM RUFFNER KANARR, a citizen of the United States, residing at Marion Center, in the county of Indiana and State of Pennsylvania, have invented a new and useful Railway-Rail Joint, of which the following is a specification.

This invention relates to the joints between the ends of railway-rails, and has for its object to simplify and improve such devices and produce a joint which will not require clamp-bolts or other extraneous fastening means to hold the rail ends together, but which will be held entirely by the interlapping and interlocking form of the structure and the holding-spikes by which it is secured to the ties.

The invention consists in certain novel features of construction, as hereinafter shown and described, and specified in the claims.

In the drawings illustrative of the invention, in which corresponding parts are denoted by like designating characters, Figure 1 is a side elevation. Fig. 2 is a longitudinal sectional elevation. Fig. 3 is a transverse section on the line 3 3 of Fig. 2. Fig. 4 is a perspective view of the adjacent rail ends, illustrating their construction more fully. Fig. 5 is a perspective view of the tie-plate detached. Fig. 6 is a detached perspective view of the lock-block.

The adjacent rail ends 10 11 are formed to overlap by cutting away the lower portion of one rail to form the overhanging tongue-like projection 12 and the upper portion of the other rail end to form the tongue 13, the tongue 12 carrying the rail-head and fitting in the cut-out space of the rail end 11 and overlapping the tongue 13. These tongues and the rail ends at the base of the tongues are preferably thickened or widened laterally to approximately the width of the rail-heads.

Centrally formed in the adjacent faces of the tongues 12 13 are oppositely-disposed recesses or cavities 14 15, adapted to register when the rail ends are united, as shown in Fig. 2, and in these cavities is disposed a key-block 16, fitting the apertures transversely relatively close, but preferably made shorter

than the length of the recesses to provide for the rail ends being firmly held by the key member from all lateral movement and permitting them to move longitudinally under the action of contraction and expansion. To increase the range of this longitudinal movement, the key-block 16 may be cut away for a short distance, as at 17, if required.

Disposed beneath the adjacent and interlapping rail ends is a tie-plate 18, preferably of steel of sufficient thickness and having lateral brace portions 19 20 bent therefrom for engagement with the opposite base-flanges of the rails, the braces being long enough to overlap the base-flanges of each rail-section and afford ample support thereto, as shown.

The rail-sections will be provided with spaced apertures 21 22 for the holding-spikes 23 24, and the brace portions 19 20 will likewise be provided with corresponding spike-apertures 25 26 to engage the opposite sides of the spikes. By this means all the parts will be firmly supported and held together without the use of transverse bolts or clamp-plates of any kind, the interlapping form of the joint affording ample support to resist the strains and effectually preventing any displacement under the most severe concussions.

The parts are of ample strength to enable them to resist all the strains to which they will be subjected, and to this end the widening or reinforcing of the rail ends laterally opposite the interlapping portions 12 13 is an important feature of the invention, the bearing-surfaces being thus increased where most required and all danger of fracture at the joint obviated.

The detachable key-block 16 is also an important feature of the invention, effectually supporting the rail-sections laterally while permitting sufficient movement longitudinally to provide for the expansion and contraction of the rails.

The blocks 16 may be of hardened steel to resist heavy strains; but they may be easily replaced at small expense if broken or worn out, avoiding the necessity of replacing the whole rail.



Having thus described the invention, what I claim is—

1. In a rail-joint the combination with the rail-sections having their adjacent ends interlapping and provided with oppositely-disposed recesses in the adjacent faces of the interlapping portions, and a key-block detachably engaging said recesses and forming a locking means to prevent transverse movement between the rail-sections.

2. In a rail-joint the combination with the rail-sections having their adjacent ends interlapping and provided with oppositely-disposed recesses in the adjacent faces of the interlapping portions, and a key-block detachably engaging said recesses and of less width longitudinally than the length of the recesses, forming a locking means to prevent transverse movement while permitting longitudinal movement under the action of contraction and expansion.

3. In a rail-joint the combination with the rail-sections having their adjacent ends interlapping and laterally widened or thickened and provided with oppositely-disposed recesses in the adjacent faces of the interlapping and thickened portions, and a key-block detachably engaging said recesses.

4. In a rail-joint the combination with the rail-sections having their adjacent ends interlapping and provided with oppositely-dis-

posed recesses in the adjacent faces of the interlapping portions, a key-block detachably engaging said recesses and forming a locking means to prevent transverse movement between the rail-sections, and a tie-plate extending beneath said interlapping rail ends and provided with integral lateral braces engaging the opposite base-flanges thereof.

5. In a rail-joint the combination with the rail-sections having their adjacent ends interlapping and provided with spaced spike-recesses in their base-flanges and with oppositely-disposed recesses in the adjacent faces of the interlapping portions, a key-block detachably engaging said recesses and preventing transverse movement between the rail-sections, and a tie-plate extending beneath said interlapping rail ends and provided with integral lateral braces engaging the opposite base-flanges of the same, said braces having spaced spike-recesses corresponding to the spike-recesses in said base-flanges of the rail ends.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM RUFFNER KANARR.

Witnesses:

E. K. PANTALL,  
M. R. COLKITT.