

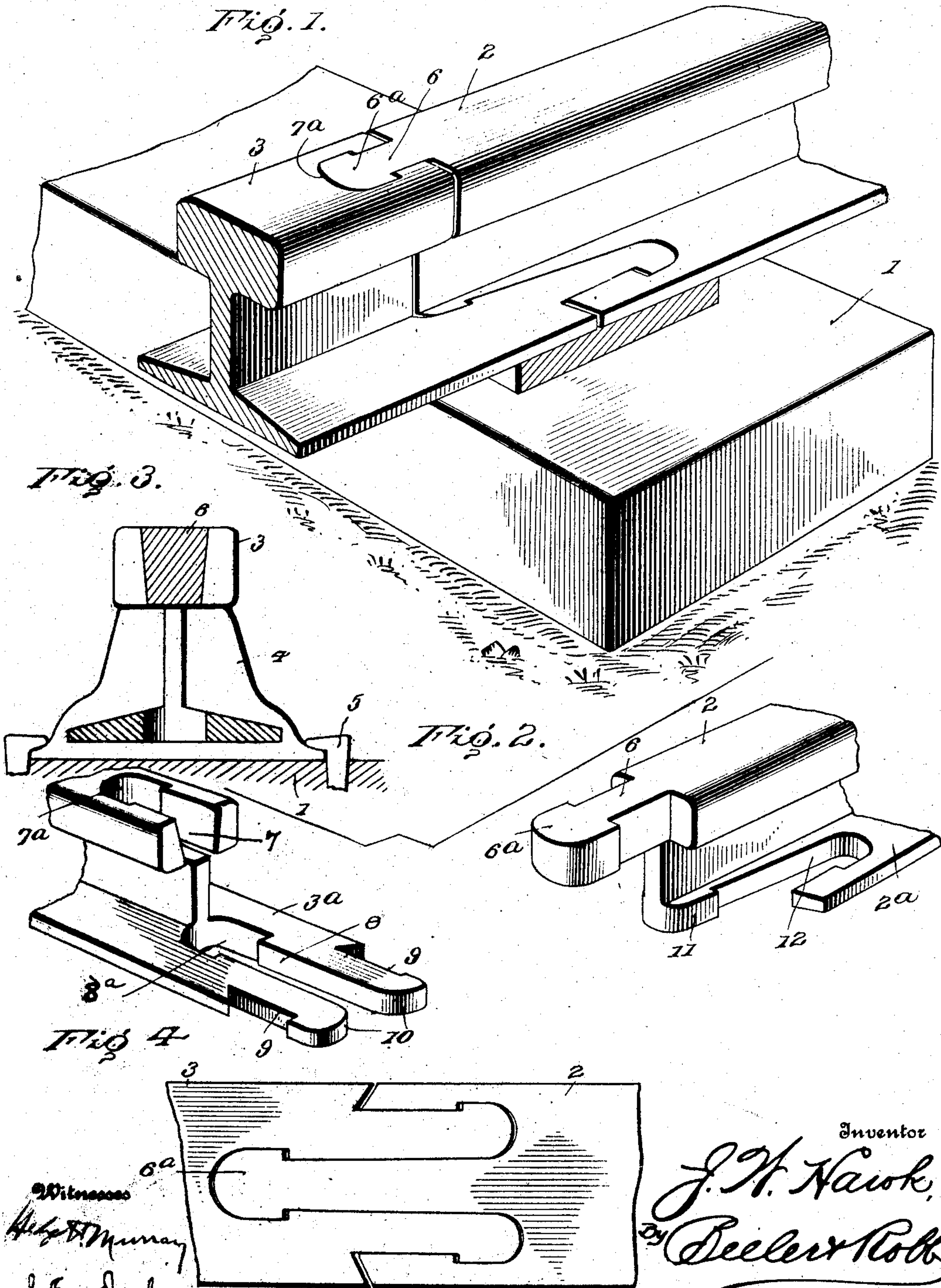
J. W. HAWK.

RAIL JOINT.

APPLICATION FILED MAR. 7, 1908.

906,796.

Patented Dec. 15, 1908.





# UNITED STATES PATENT OFFICE.

JOHN W. HAWK, OF NEW KENSINGTON, PENNSYLVANIA.

## RAIL-JOINT.

No. 906,796.

Specification of Letters Patent.

Patented Dec. 15, 1908.

Application filed March 7, 1908. Serial No. 419,790.

*To all whom it may concern:*

Be it known that I, JOHN W. HAWK, a citizen of the United States, residing at New Kensington, in the county of Westmoreland and State of Pennsylvania, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification.

This invention relates to the type of rail joints in which the meeting ends of the connected rails overlap one another, whereby a continuous bearing is provided for the wheels of the rolling stock at the point of jointure of the rails.

The invention comprises a novel construction of rail ends, and means for holding the same in proper operative engagement with one another, in order to increase the strength of the joint means to a maximum degree, to eliminate the jar and vibration incidental to passage of the wheels of cars over the ends of the rails now most commonly in use, and to secure various other advantages.

For a full understanding of the invention, including the preferred construction, and operation thereof, reference is to be had to the following detailed description, and to the accompanying drawings, in which

Figure 1 is a perspective view of rail joint means embodying the invention, a side of the rail chair being broken away to more clearly show the interlocking engagement of the rail ends; Fig. 2 is a perspective view of the adjacent connected end portions of the rails, separated; Fig. 3 is a transverse vertical sectional view; and Fig. 4 is a bottom plan view partly broken away.

Similar reference characters denote similar parts throughout the description and drawings.

Referring to the drawing particularly, the numeral 1 designates an ordinary railway tie, the numeral 2 the end of one rail, and the numeral 3 the end of the other rail. The rail ends 2 and 3 are snugly received in a rail chair 4 which rests upon, and is secured to, the tie 1 by spikes 5 or similar fastenings. The head of the rail end 2 is formed with an interlocking tongue 6 extending therefrom into a recess 7 in the similar portion of the rail end 3. The outer end of the tongue 6 is enlarged, as at 6<sup>a</sup>, the enlargement being received in the widened portion 7<sup>a</sup> of the recess 7 in the head of the rail end 3.

Not only are the head portions of the rails adapted to be interlocked but the base por-

tions are similarly connected. The base 3<sup>a</sup> of the rail end 3 projects some distance from the web and head portions thereof, the projecting base portion being provided with a longitudinal slot 8, the inner extremity of which is transversely widened at 8<sup>a</sup>. The provision of the slot 8, and the formation of recesses 9 in the portions of the base 3<sup>a</sup> at opposite sides of said slot, form hooks 10 at the outer extremity of the projecting portion of the base 3<sup>a</sup>.

The base 2<sup>a</sup> of the rail end 2 is cut away so that its outermost portion is formed with an interlocking projection 11 adapted to be received in the widened portion 8<sup>a</sup> of the slot 8, the narrow portion of the base 2<sup>a</sup> adjacent to the projection 11 fitting within the slot 8. Angularly shaped recesses 12 are formed in opposite sides of the base 2<sup>a</sup> and said recesses are adapted to snugly receive the hooks 10 which interlock with the rail end 2 by engagement with the base 2<sup>a</sup> in the manner above mentioned.

In the operation of connecting the rail ends together and securely attaching the same to the railway ties, the chair 4 is slipped upon one of the rail ends, preferably that numbered 3 and moved longitudinally thereof until it clears the recess 7. The rail 2 is then moved downwardly so that its interlocking tongue 6 will be received in the recess 7, and the recesses 12 will receive the hooks 10. Both the head and basal portions of the rail ends are thus interlocked. After interlocking the rail ends in the above manner the rail chair is moved into a position in which it extends over, or receives, the interlocked base portions of the rail ends, after which the chair is securely spiked or fastened to the tie 1. A reversal of the above operation will permit of quickly and easily separating the rail ends. The recess 7 slot 8 and recesses 9 are slightly longer than the portions of the rail end 2 which interlock therewith, thus permitting of the expansion and contraction of the rails caused by variation of atmospheric conditions.

The sides of the tongue 6 converge slightly toward the under side of the tongue and the recess 7 also has similar convergent sides, whereby the part 6 wedges snugly in the recess 7, when the rail ends are joined together. Lateral play of the rail ends is thus effectively prevented while the slight longitudinal relative movement of the rail ends is permitted for purposes above mentioned.

In the practical embodiment of this inven-



tion, the usual fish-plates, bolts and nuts, or similar fastening means are dispensed with resulting advantages of obvious import.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention. The chair 4 of my joint means takes the place of the ordinary fish-plates, no nuts or bolts being used, however, as mentioned above.

Having thus described the invention what is claimed as new is:—

1. Rail joint means comprising rail ends, one rail end being provided in its head portion with a recess and having its base portion projecting from its web and provided with a longitudinal slot, the base portion aforesaid being provided with recesses at the outer edges of the projecting end, thereby forming hooks, and the other rail end having a tongue projecting from its head portion into the recess in the head of the first mentioned rail end while the base portion of the second rail end is formed with recesses in which the hooks aforesaid interlock.

2. Rail joint means comprising rail ends one of which is formed in the head thereof with a longitudinal recess enlarged at its inner extremity, the base of said rail end having a longitudinal slot therein and projecting some distance from its web portion, the inner extremity of said slot being enlarged and the outer edge portions of the projecting base being formed with recesses at opposite sides of the slot, the other rail end having an interlocking tongue extending from its head and received in the recess in the head of the first mentioned rail end, the base of the second rail end being received in and having a projection interlocking with the enlarged end of the slot of the first rail end, and angular recesses being provided in the base of the second rail end to receive and interlock with the hooks of the first rail end.

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

JOHN W. HAWK.

Witnesses:

J. W. McGUIGAN,  
C. A. FRITZ.