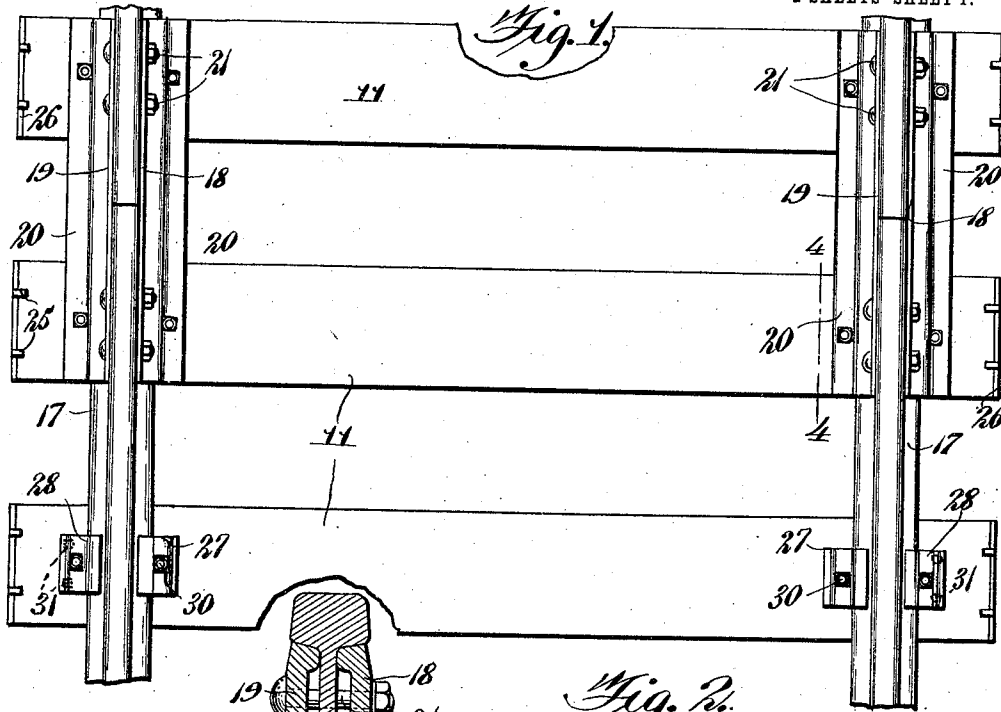
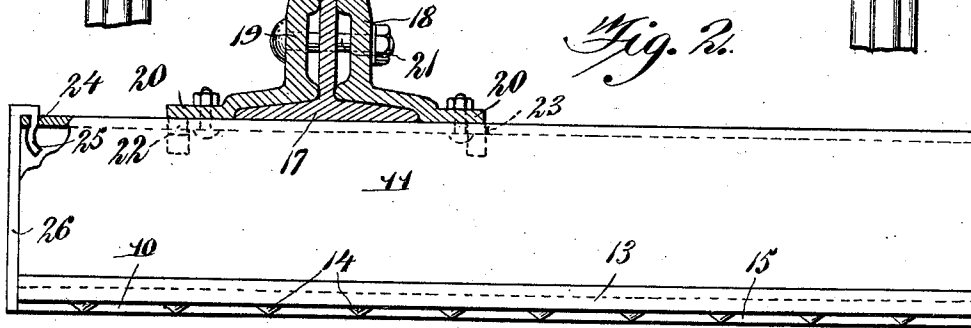
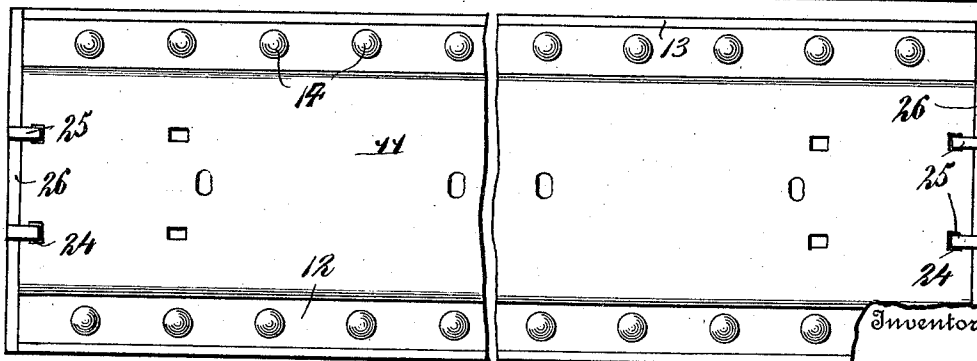


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 COMBINED RAILROAD TIE AND JOINT.  
 APPLICATION FILED FEB. 25, 1913.

1,066,373.

Patented July 1, 1913.

2 SHEETS—SHEET 1.



Witnesses

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*Fig. 4*

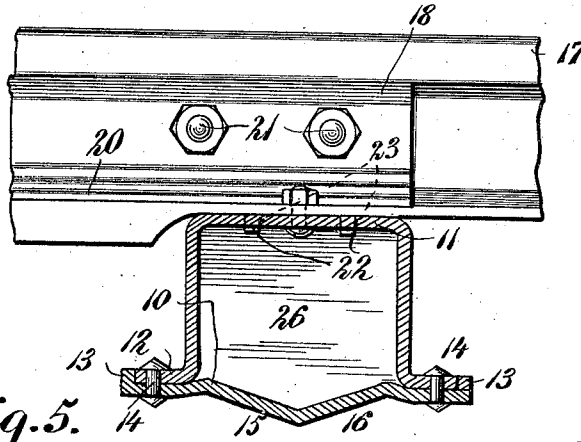


*Fig. 5*

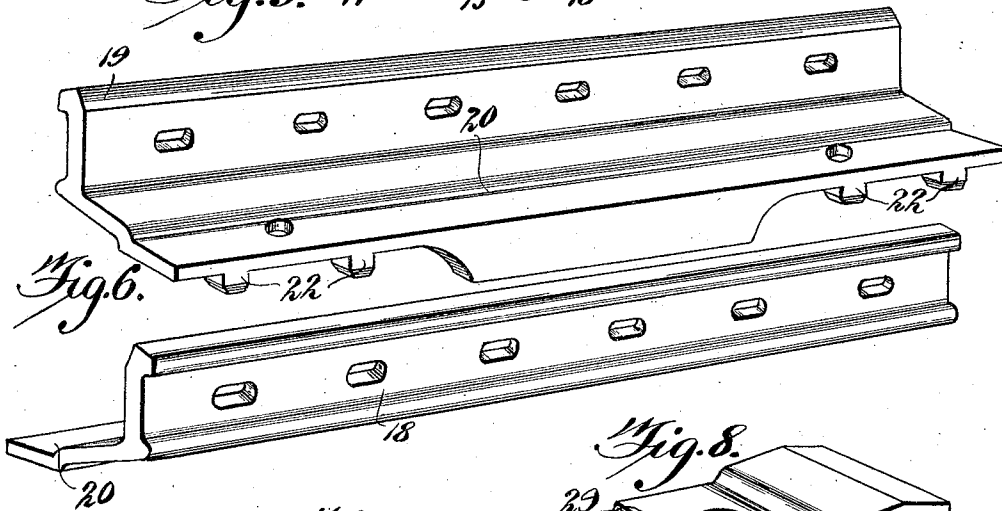


*Fig. 6*

*Fig. 7*

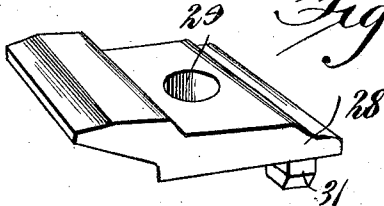
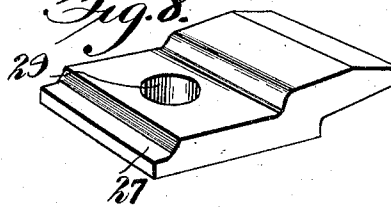


*Fig. 8*



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# UNITED STATES PATENT OFFICE.

SILAS D. BRACKEN, OF JOHNSTOWN, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO  
EDWARD R. BRACKEN, OF JOHNSTOWN, PENNSYLVANIA.

## COMBINED RAILROAD-TIE AND JOINT.

1,066,373.

Specification of Letters Patent.

Patented July 1, 1913.

Application filed February 25, 1913. Serial No. 750,641.

*To all whom it may concern:*

Be it known that I, SILAS D. BRACKEN, a citizen of the United States, residing at Johnstown, in the county of Cambria and State of Pennsylvania, have invented new and useful Improvements in Combined Railroad-Ties and Joints, of which the following is a specification.

The invention relates to a railway tie and joint, and more particularly to the class of metallic railway ties and splice bars or joints.

The primary object of the invention is the provision of a railway tie and joint in which the said tie is in the form of a hollow body provided with a corrugated base designed to engage the ground surface so as to avoid displacement of the tie in the track bed, the joint being readily fastened upon the tie for the securing of the meeting ends of the rails of a track when superimposed upon the tie.

Another object of the invention is the provision of a railway tie wherein the railway rails may be securely fastened thereto and readily detached, the tie being of hollow formation so as to assure maximum strength without requiring increased material in the make-up thereof.

A further object of the invention is the provision of a railway tie and joint which is simple in construction, thoroughly reliable and efficient in purpose, strong, durable, and also inexpensive in manufacture.

With these and other objects in view the invention consists in the construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawings, and pointed out in the claims hereunto appended.

In the drawings: Figure 1 is a fragmentary top plan view of a pair of rail joints mounted upon a cross tie, both being constructed in accordance with the invention. Fig. 2 is a side elevation thereof. Fig. 3 is a fragmentary top plan view of the tie with the joint removed. Fig. 4 is a sectional view on the line 4-4 of Fig. 1. Fig. 5 is a perspective view of one of the fish plates or angle bars. Fig. 6 is a similar view of the other angle bar or fish plate. Fig. 7 is a perspective view of one of the rail clamps, the same being used at the inner side of the rail. Fig. 8 is a similar view of the outer rail clamp.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

Referring to the drawings by numerals, the improved cross-tie is preferably hollow and is formed from two pieces comprising a base section 10, and a body section 11, the latter being of substantially inverted U-shape and is formed with out-turned longitudinal edge flanges 12, which are superimposed upon the base section 10 and abut against upturned ribs 13 formed at the opposite longitudinal edges of the said base section so as to prevent the crushing in of the body section 11 when heavy loads are imposed thereon. In other words the sides of the body section 11 will be prevented from spreading when the latter is subjected to weight. Passed through the edge flanges 12 and the base section 10 at intervals throughout the length thereof are rivets 14 or other suitable fasteners for the joining of the base and body sections together to provide a unitary structure. The bottom section is longitudinally corrugated to provide alternate ribs and grooves 15 and 16 respectively so that the said base section when resting upon a foundation or the road bed will become securely anchored therein to avoid the creeping of the tie or displacement thereof.

Adapted to rest upon the top of the body section 11 are the usual railway rails 17, the meeting ends of which are joined by means of inner and outer angle bars 18 and 19 respectively, which are designed to engage the webs and bases of the said rails, each of the angle bars being formed with a rest extension 20 extending throughout the length thereof and engaging with the top of the body section 11 of the tie so that the angle bar can be readily and conveniently fastened to the said tie. Passed through the angle bars 18 and 19 and the webs of the rails 17 are the usual bolt members 21 which secure the angle bars to the meeting ends of the said rails for connecting the said rail ends to provide a firm joint therebetween.

Formed on and depending at intervals from the rest extensions 20 on the angle bars are holding lugs 22 which detachably engage in openings 23 formed in the top of the body section 11 of the tie, the openings 23 being located on opposite sides with respect to the point of contact of the rails with

the said tie and on the engagement of the lugs 22 in the said openings the angle bars and rails will be held against displacement longitudinally of the cross tie. Formed in  
 5 the top of the body section 11 near the ends thereof are openings 24 in which are detachably engaged hook limbs 25 formed on each end closure plate 26 for the cross tie for the closing of the ends thereof.

10 Adapted to engage the bases of the rails between the joints are inner and outer rail clamps 27 and 28 respectively, each being formed with bolt receiving openings 29 through which are passed bolt members 30,  
 15 the same being also passed through the top of the body section 11 of each tie for the fastening of the said clamps thereto. The outer rail clamps 28 are formed with depending holding lugs 31 which are designed  
 20 to engage in suitable correspondingly shaped openings formed in the top of the body section 11 of each tie so that the outer clamps will be additionally secured to the cross ties thereby preventing any possibility of the  
 25 spreading of the rails.

From the foregoing description taken in connection with the accompanying drawings, it is thought that the construction and operation of the invention will be clearly  
 30 understood, and therefore, a more extended explanation has been omitted.

It will be noted that the rail ends will be

free for permitting the usual expansion and contraction thereof without possibility of any lateral displacement of one rail with  
 35 respect to the other.

What is claimed is:—

1. A cross tie comprising a base having longitudinal corrugations therein, up-turned ribs formed at the longitudinal edges of the  
 40 base, an inverted substantially U-shaped body section superimposed upon the base and having out-turned edge flanges abutting against the said ribs, and rivets passed  
 45 through the base and out-turned flanges of the body for connecting the same together.

2. A cross tie comprising a base having longitudinal corrugations therein, up-turned ribs formed at the longitudinal edges of the  
 50 base, an inverted substantially U-shaped body section superimposed upon the base and having out-turned edge flanges abutting against the said ribs, rivets passed through  
 55 the base and out-turned flanges of the body for connecting the same together, and end plates detachably hung upon the body section and closing the ends thereof.

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

SILAS D. BRACKEN.

Witnesses:

HENRY L. OPPERMAN,  
 THEODORE JUDY.