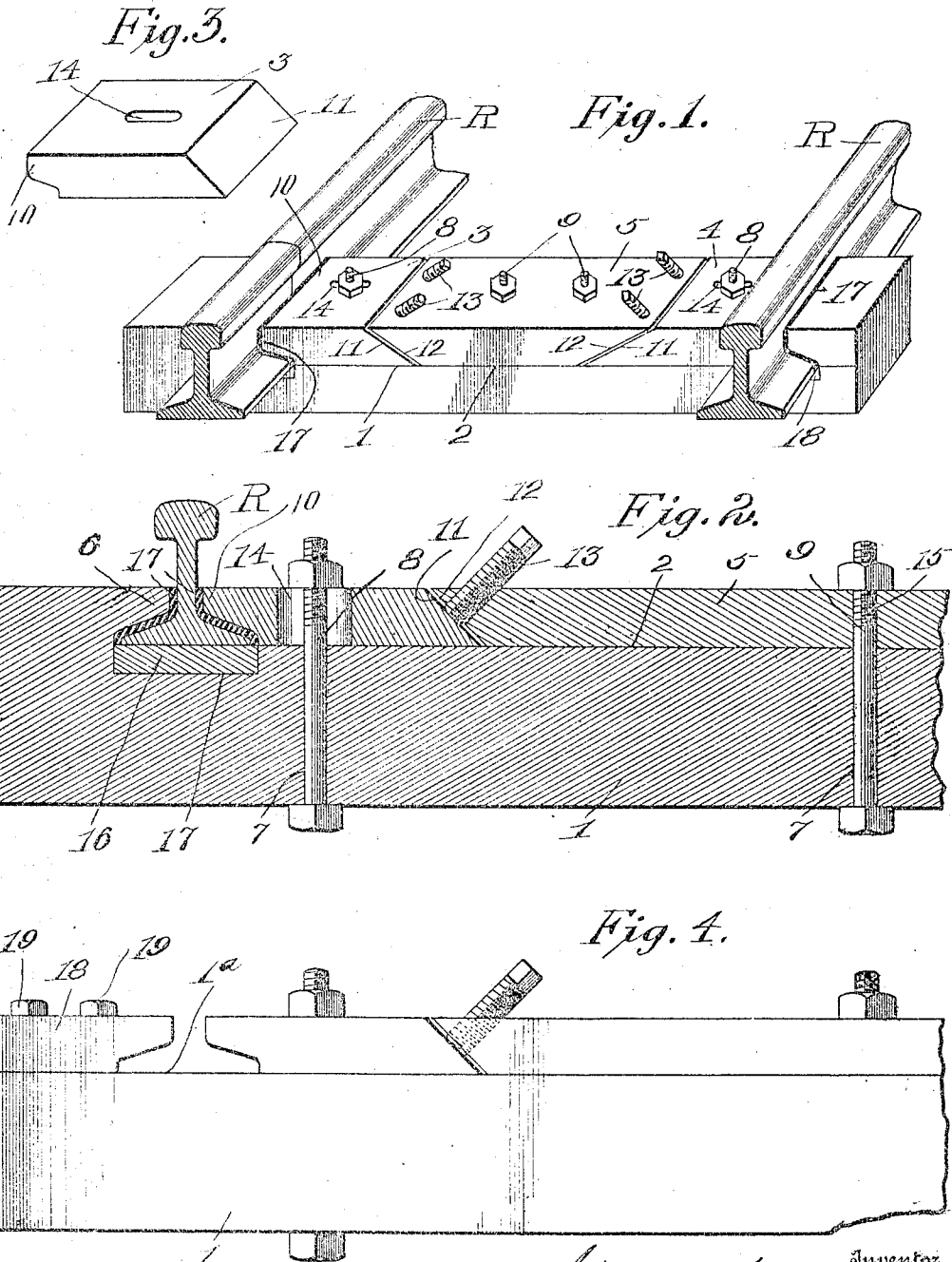


No. 892,789.

PATENTED JULY 7, 1908.

G. WILLIAMS.
METALLIC CROSS TIE AND RAIL FASTENER.
APPLICATION FILED FEB. 27, 1908.



Witnesses

James J. Brown
L. J. Little.

Inventor
George Williams
By Watson E. Coleman
Attorney

UNITED STATES PATENT OFFICE.

GEORGE WILLIAMS, OF SHIRLEY, INDIANA.

METALLIC CROSS-TIE AND RAIL-FASTENER.

No. 892,789.

Specification of Letters Patent.

Patented July 7, 1908.

Application filed February 27, 1908. Serial No. 418,144.

To all whom it may concern:

Be it known that I, GEORGE WILLIAMS, a citizen of the United States, residing at Shirley, in the county of Hancock and State of Indiana, have invented certain new and useful Improvements in Metallic Cross-Ties and Rail-Fasteners, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to improvements in metallic railway cross ties and rail fastening devices therefor; and it consists of the novel features of construction and the combination and arrangement of parts hereinafter fully described and claimed.

The object of the invention is to improve and simplify the construction of devices of this character and to provide one which will allow of the ready application and removal of the rails, which will deaden the noise and lessen the vibration, and which will dispense with the necessity of fish-plates and rail clamping bolts at the meeting ends or joints of rails.

The above and other objects of the invention are attained in its preferred embodiment illustrated in the accompanying drawings, in which

Figure 1 is a perspective view of my improved metallic cross tie and rail fastening device; Fig. 2 is a vertical longitudinal section; Fig. 3 is a detail perspective of one of the rail engaging plates; and Fig. 4 is a side elevation of a slightly modified form of the invention.

In the drawings 1 denotes the metallic body of the cross tie which may be cast either solid or hollow and which has in its top a longitudinally extending recess 2 to receive the track rails R and clamping plates 3, 4, 5. The end walls of the recess 2 are undercut to provide overhanging projections 6 shaped to engage the outside faces of the track rails. At suitable points in the intermediate portion of the body 1 are formed vertical openings 7 for the reception of bolts or similar fastenings 8, 9 which secure the plates 3, 4, and 5, respectively, in position, as more clearly shown in Fig. 2. The clamping plates 3, 4, which I will term rail engaging plates, have their outer ends undercut to provide projecting portions 10 to engage the inner faces of the track rails R; and the inner ends 11 of said plates 3, 4 are beveled downwardly and inwardly to oppose the oppositely beveled ends 12 of the central plate

5. The latter serves to lock the rail engaging plates 3, 4 in position since the downwardly and inwardly beveled ends 12 of said locking plate overlie the beveled ends 11 of the plates 3, 4. One or more set screws 13 are arranged angularly, as clearly shown in Fig. 2, at the ends of the central or locking plate 5 and are adapted to impinge against the beveled ends 11 of the rail engaging plates. The bolts 8 which retain the plates 3, 4 upon the tie are passed upwardly through the openings 7 and through elongated openings or slots 14 formed in the plates 3, 4, the slots permitting of longitudinal adjustment of said plates. The bolts 9 which secure the central plate in position are passed upwardly through the openings 7 in the tie and through registering openings 15 in said plate, clamping nuts being provided upon the projecting upper screw threaded ends of both sets of bolts 8, 9. In order to cushion the track rails and lessen the noise and vibration due to trains passing over the same, I preferably provide beneath said rails cushioning blocks 16 of wood or the like; and I also provide cushioning strips 17 of rubber or any other suitable material upon the inner faces of the rail engaging ends or portions 6, 7 of the tie body and the plates 3, 4. The cushioning blocks 16 are preferably set in recesses or depressions 18 formed in the bottom of the recess 2 and beneath the overhanging walls or portions 6 at the ends of said recess 2, as clearly illustrated.

From the foregoing it will be seen that my improved metallic tie is strong, durable and comparatively inexpensive; and the use of the cushioning devices renders it an efficient substitute for a wooden tie. By constructing the clamping plates as set forth so that they can be readily applied, adjusted, and removed, the track rails may be quickly and easily applied and removed and when applied will be effectively held so that there will be no danger of the rails spreading or lifting. By making the ties comparatively broad, and placing one of them beneath the meeting ends of two track rails, as shown in Fig. 2, it will be seen that said meeting ends of the rail will be held in perfect alignment and there will be no need of fish-plates, bolts, or other joint fastening devices.

In Fig. 4 of the drawings I have shown a slightly modified form of my invention, in which the projections 6, which engage the outer faces of the track rails, are formed

upon separate clamping plates 18 which are secured in position upon the flat top of the tie body 1^a by two or more bolts 19. When the clamping plates 18 are employed, the tie
 5 body 1 may be made of rolled steel or of concrete or any other suitable material.

Having thus described my invention what I claim is:

1. A cross tie and rail fastener, comprising
 10 a body, overhanging projections at the ends thereof to engage the outer faces of the track rails, rail engaging plates having elongated openings, a locking plate arranged between
 15 the rail engaging plates and having its ends overhanging the latter, set screws in said overhanging ends of the locking plate and adapted to impinge against the rail engaging
 20 plates, means for securing the locking plate upon the body and clamping means arranged in the tie body and passing through the elongated openings in the rail engaging plates.

2. A cross tie and rail fastener, comprising
 25 a body, overhanging projections at the ends thereof to engage the outer faces of the track rails, rail engaging plates having elongated openings and downwardly and inwardly beveled inner ends, a central locking plate
 30 having downwardly and inwardly beveled ends to overlie the beveled ends of the rail engaging plates, set screws in the ends of the

locking plate to impinge against the beveled ends of the rail engaging plates, bolts uniting the locking plate to the body and bolts uniting the rail engaging plates to the body, the
 35 last mentioned bolts passing through the elongated openings in said rail engaging plates.

3. A cross tie and rail fastener, comprising a body, overhanging projections at the ends
 40 thereof to engage the outer faces of the track rails, rail engaging plates having elongated openings and beveled ends, bolts passed through the body and said openings, cushioning strips upon the inner faces of said
 45 overhanging rail engaging projections and the outer ends of the rail engaging plates, cushioning blocks set in the body beneath said cushioning strips, a centrally disposed locking plate having beveled outer ends to
 50 overlie the beveled ends of the rail engaging plates, set screws in said beveled ends of the locking plate and adapted to impinge against the beveled ends of the rail engaging plates, and bolts passed through the body and
 55 locking plate.

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

GEORGE WILLIAMS.

Witnesses:

AMOS S. HOLLOWAY,
 FOSTER JUDKINS.