J. W. C. HAAS.

RAIL TIE AND FASTENER.

APPLICATION FILED MAR. 10, 1915.

1,190,154.

Patented July 4, 1916.

2 SHEETS—SHEET 1.

Fig. 1.

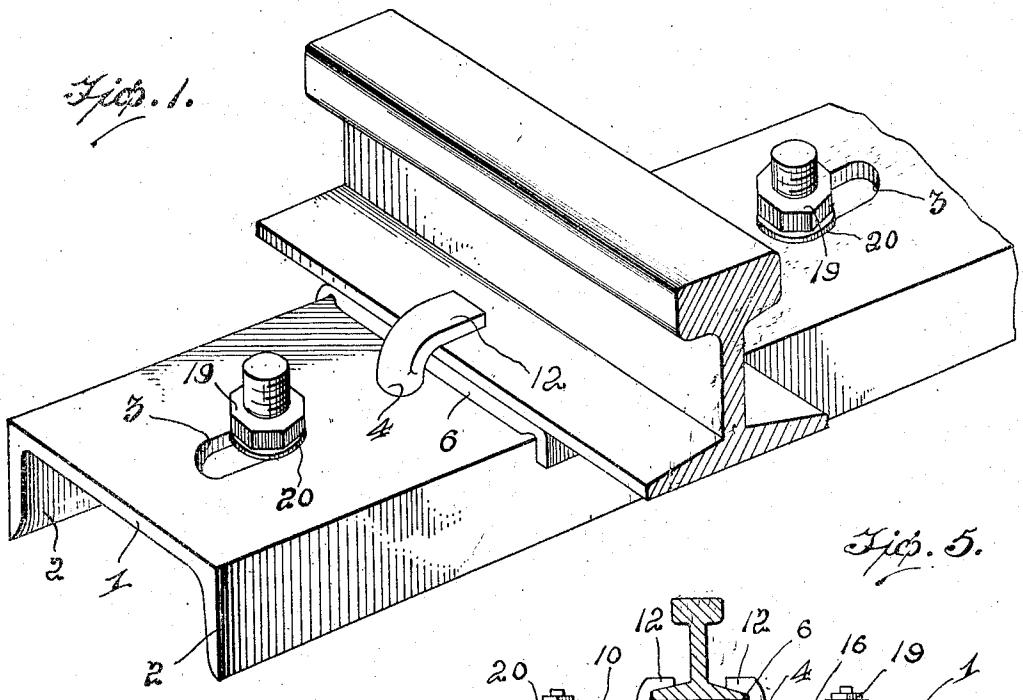
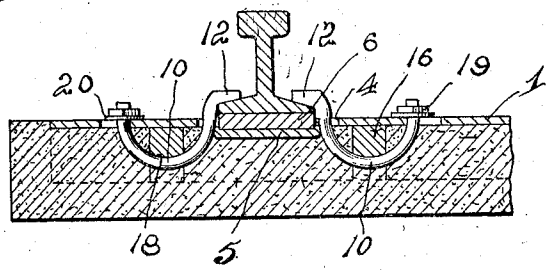


Fig. 5.



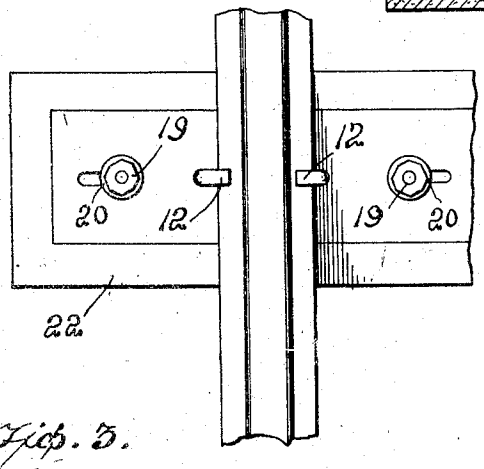


Fig. 3.

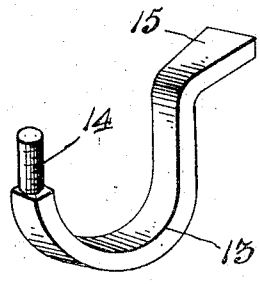


Fig. 8.

Witnesses
P. H. Dethmers
[illegible]

Inventor
J. W. C. Haas.

By [illegible]

Attorney

J. W. C. HAAS.

RAIL TIE AND FASTENER.

APPLICATION FILED MAR. 10, 1915.

1,190,154.

Patented July 4, 1916.

2 SHEETS—SHEET 2.

Fig. 2.

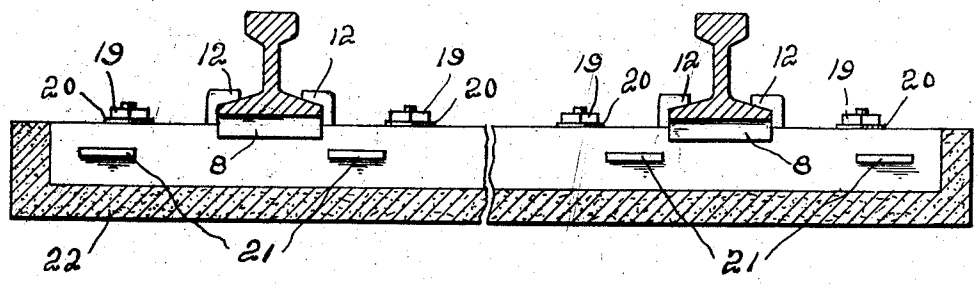


Fig. 6.

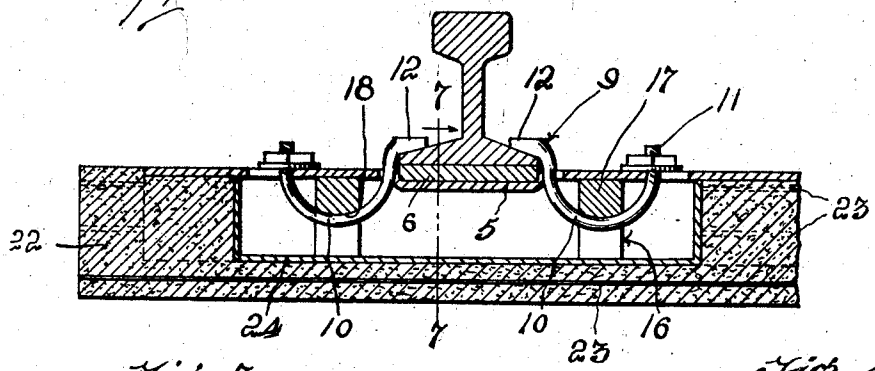


Fig. 7.

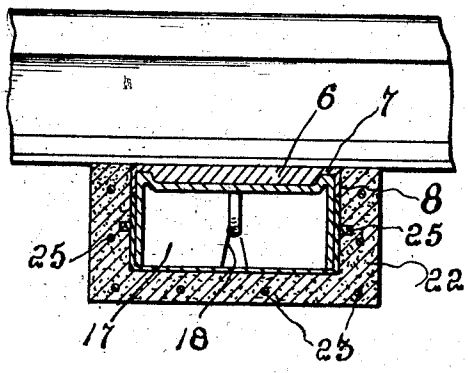
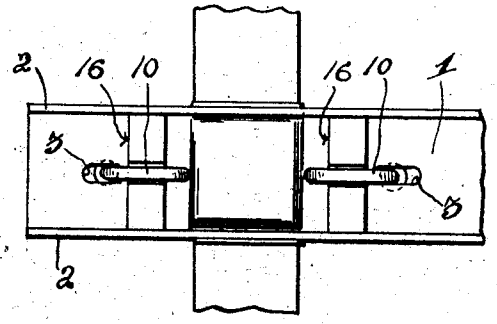


Fig. 4.



Witnesses

F. F. Weihmayer.

Inventor

J. W. C. Haas.

By A. Kaufmann, Jr.

Attorney

UNITED STATES PATENT OFFICE.

JOHN W. C. HAAS, OF NEWBURGH, NEW YORK.

RAIL TIE AND FASTENER.

1,190,154. Specification of Letters Patent. Patented July 4, 1916

Application filed March 10, 1915. Serial No. 13,390.

To all whom it may concern:

Be it known that I, JOHN W. C. HAAS, a citizen of the United States, residing at Newburgh, in the county of Orange and State of New York, have invented certain new and useful Improvements in Rail Ties and Fasteners; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to new and useful improvements in rail ties and fasteners and has for its principal object to provide a rail tie for use on railroads which will effectively hold the rail from sinking.

Another object of the invention is to provide a rail fastener which will prevent the rail from creeping or spreading and thereby reduce the number of wrecks occurring from these causes.

A further object of the invention is to provide a tie which is capable of being embedded in a concrete body or to provide a tie which is capable of being used without the necessity of incasing the same.

A still further object of the invention is to provide a means for holding the tie in the concrete base to enable the same to be easily removed if so desired.

With these and other objects in view, the invention consists in the novel combination and arrangement of parts which will be fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a fragmentary perspective view of a railroad tie and a portion of rail showing the whole assembled, Fig. 2 is a longitudinal sectional view of a tie embedded in a concrete casing, Fig. 3 is a top plan view of Fig. 2, Fig. 4 is a bottom plan view of the tie illustrated in Fig. 1, Fig. 5 is a longitudinal sectional view through the center of a tie shown in Fig. 2, Fig. 6 is a fragmentary longitudinal sectional view of the tie showing the same in the removable casing, Fig. 7 is a transverse sectional view taken on the line 7—7 of Fig. 6, and Fig. 8 is a detail perspective view of a modified form of rail clamp.

Referring now to the drawings by characters of reference, the numeral 1 designates the main body of the tie provided with longitudinally extended depending flanges which are formed laterally of the body 1. A pair of longitudinally alining slots 3 are formed in the body 1 of the tie near each end and coöperate with the alining apertures 4 which are spaced therefrom for a short distance as is clearly shown in the drawings. Formed intermediate the apertures 4 in the body 1 of the tie is a depressed portion 5 in which the rail chair which will be more fully hereinafter described seats.

The rail chair above referred to comprises the body 6 which is designed to rest in the depression 5, and this body is formed with the reduced flanges 7 at each end which are provided with the downturned portions 8 which overlie the walls 2 of the tie and assist in holding the chair in place. This rail chair is preferably formed of lead or a similar material and is designed to relieve the tie of many of the shocks due to the passage of heavy traffic thereover. This chair also forms a seat which will effectively take up the wear of the rail against the tie.

In order to hold the rail in place, the clamps designated generally by the numeral 9 are provided and each of these clamps comprises the arcuate body 10 which is screw threaded at one end as at 11 and provided at its opposite end with the angular extension 12 which is designed to engage the rail flange of the rail when the same is in place. The modified form of rail clamp shown in Fig. 8 comprises the arcuate body 13 which is rectangular in cross section and is formed with the reduced threaded extension 14 at one end and at its opposite end with the rail flange engaging portion 15. The only material difference between the clamp 9 and the one illustrated in Fig. 8 is that the clamp 9 is circular in cross section while the clamp illustrated in Fig. 8 is rectangular in cross section. In order to provide a means for the clamp to bear against when in place, the block 16 is provided and this block comprises the body 17 having formed therein the transversely extending slot or groove 18, the inner wall of which is arcuate to conform to the shape of the rail clamp. Threaded on the ends 11 and 14 of the rail clamps are suitable nuts 19 which bear against the washers 20 which are preferably formed of spring metal and arranged to bite into the bottom of the nut to hold the same against rotation.

When the tie is used in connection with the concrete body, the laterally extending anchors 21 are provided which engage in the cement and other plastic material and

hold the body of the tie in place. This cement is designated by the numeral 22 and is reinforced throughout its length by means of the bars 23 so that breakage of the tie is practically prohibited.

When the construction of tie illustrated in Figs. 6 and 7 is used the casing 24 is first embedded in the plastic body of the tie and this casing is formed with the lateral flanges 25 which engage the plastic material and firmly anchor the same in place. The body 1 of the tie is then placed in position and it will be apparent that the plastic material will be prevented from engaging the rail clamps thus permitting the whole to be removed from the body of the tie so that any parts may be replaced if so desired.

From the foregoing it will be apparent that in use the ties are laid in the usual way and the rails placed on the rail chairs 6, the clamps 9 are then passed through the apertures 4 so that the angular extensions 12 engage the rail flanges and these clamps pass around through the groove 18 in the bearing block 16 and then outwardly through the slot 3. The washer 20 is then slipped over each of the clamps and the nuts 19 are then tightened thus firmly drawing the threaded ends of the clamps upwardly and causing the angular extension 12 to more firmly engage the rail flange and clamp the same tightly in place. In this way it will be evident that the rails will be locked against accidental movement and positively held against spreading.

While in the foregoing there has been shown and described the preferred embodiment of this invention, it is to be understood that such changes may be made in the combination and arrangement of parts as will fall within the spirit and scope of the appended claim.

What is claimed is:—

A rail tie including a hollow body having rail seats formed in the upper side thereof and having a pair of spaced openings located adjacent each side of each rail seat, and spaced pairs of blocks interposed between and engaging the upper and lower sides of the body and each having a vertical recess therein, the upper end wall of each recess being arcuate and the blocks forming each pair being arranged on opposite sides of one of the rail seats, and rail clamps received by each pair of openings in the upper side of the body and extending into the body and received by the recesses in the blocks and engaging around the arcuate walls of the recesses.

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

JOHN W. C. HAAS.

Witnesses:
WILLIAM E. FLANAGAN,
HARRY F. BAKER.