

R. C. WATSON.

RAILWAY TIE AND FASTENING DEVICE.

APPLICATION FILED OCT. 23, 1911. RENEWED SEPT. 12, 1912.

1,057,309.

Patented Mar. 25, 1913.

2 SHEETS—SHEET 1.

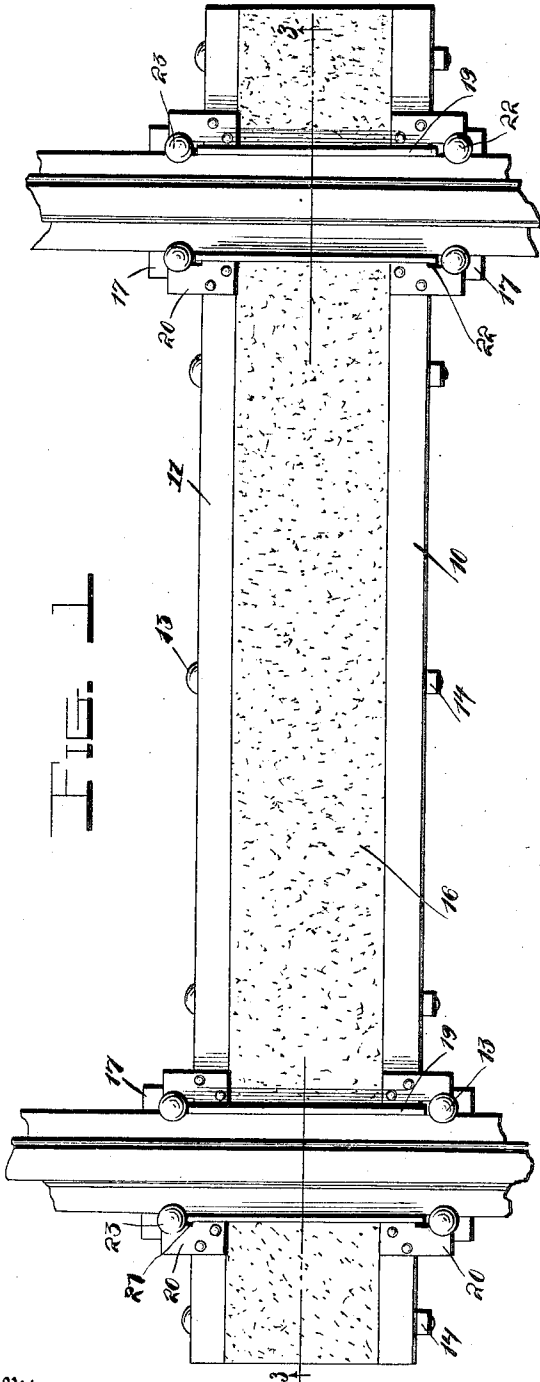


FIG. 1

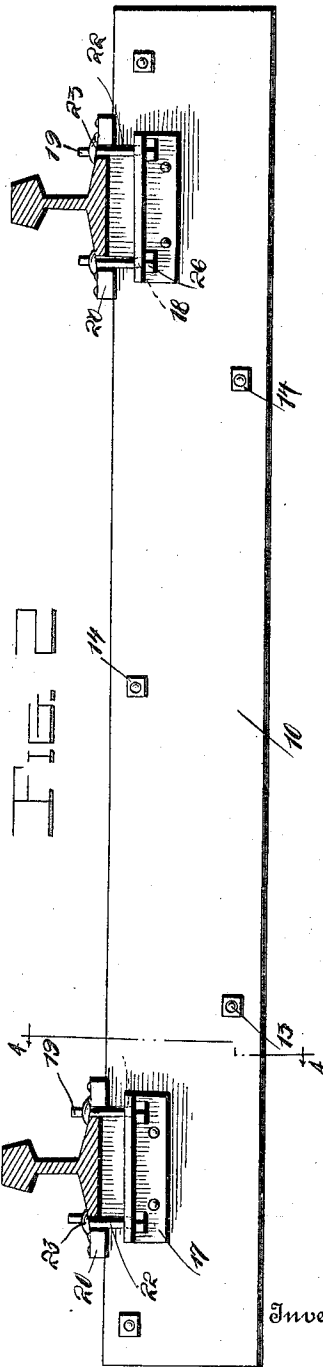


FIG. 2

Witnesses
Frank S. Ratcliffe
W. H. W. or Man.

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R. C. Watson

Charles C. C. C.

Attorney

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2 SHEETS-SHEET 2.

Fig. 2

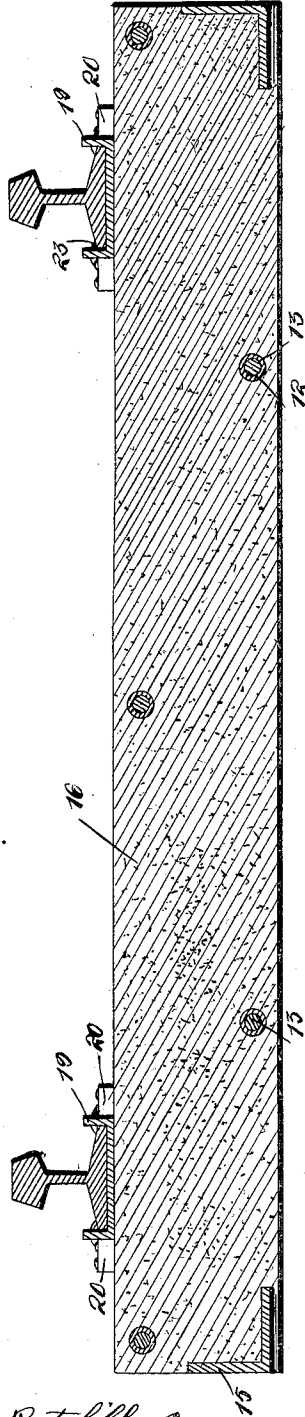


Fig. 3

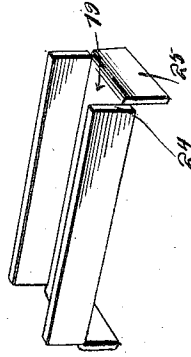
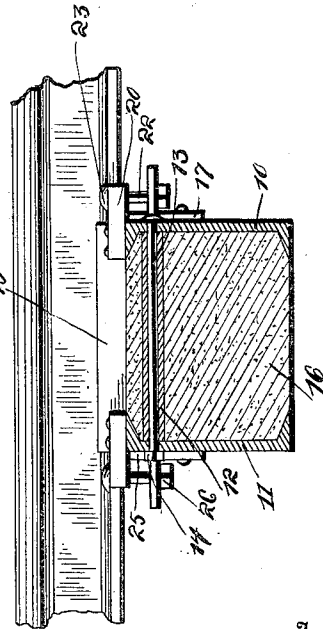


Fig. 4



Witnesses

Frank S. Patchell
W. H. Woodman

Inventor

R. C. Watson.

By *Charles* *Charles*

Attorneys

UNITED STATES PATENT OFFICE.

ROBERT C. WATSON, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR OF ONE-HALF TO JOHN A. STUART, OF CONGRESS HEIGHTS, DISTRICT OF COLUMBIA.

RAILWAY-TIE AND FASTENING DEVICE.

1,057,309.

Specification of Letters Patent.

Patented Mar. 25, 1913.

Application filed October 23, 1911, Serial No. 656,135. Renewed September 12, 1912. Serial No. 720,094.

To all whom it may concern:

Be it known that I, ROBERT C. WATSON, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Railway-Ties and Fastening Devices; 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.

My invention relates to new and useful improvements in railway ties and rail fastenings therefor, and the object of my invention is to improve the construction and increase the efficiency of devices of the above described character.

A still further object of my invention is to construct a metallic tie formed of spaced apart confronting channel iron members, the space between said members being filled with concrete or other preferred plastic material. And a still further object of my invention is to provide means for securing a rail to a tie of the above described type by the use of bolts of ordinary construction.

With these and other objects in view my invention will be more fully described, illustrated in the drawings which show a preferred embodiment of my device and then specifically pointed out in the appended claims which are attached to and form a part of this application.

In the drawings, Figure 1 is a top plan of the tie showing the rails secured thereto. Fig. 2 is a side elevation of the same the rails being shown in section. Fig. 3 is a longitudinal section on the line 3—3 of Fig. 1. Fig. 4 is a transverse section on the line 4—4 of Fig. 2. Fig. 5 is a perspective of the rail seat employed with my improved tie.

Referring more specifically to the drawings, in which similar reference numerals designate corresponding parts throughout, the metallic frame of my improved tie consists of side members 10 and 11 each formed of channel iron and secured together in spaced relation with the flanges of both directed inwardly, the securing means consisting of a plurality of pipe members interposed between the two in staggered relation as shown at 12 in Fig. 3 and secured in place by means of tie bolts 13 which are passed through the sides 10 and 11 and through the bores of the pipes and secured

in place by nuts 14 or other preferred means. The lower ends of this frame are further reinforced by means of angle irons 15 which are inserted between the side members with one flange seated on the lower flanges of said members and with the other flange extending upwardly between the web portions of said side members.

In order to reinforce the frame thus formed and also to give it the requisite weight and rigidity the space between the sides 10 and 11 is filled with any preferred plastic material such as concrete represented conventionally at 16, said material terminating flush with the outer faces of the flanges of the side members 10 and 11 as best shown in Fig. 4, which figure also shows the manner in which said side members are secured in spaced relation by the pipes and tie bolts.

As a means for securing the rails to the above described tie I have provided angle irons 17 which are secured one adjacent either end of each of the side members 10 and 11 at the proper distance apart to receive the rail, said angle irons being secured to the side members by bolting or riveting as shown in Figs. 2 and 4 in such a manner that their laterally directed flanges are spaced a slight distance below the top of the tie, said flanges being provided with bolt receiving apertures 18.

A rail seat which, as a whole, is designated by the numeral 19 is positioned upon the upper face of the tie and is held against longitudinal movement thereon by means of plates 20 positioned one upon either side of each end of the seat 19 and firmly bolted or riveted to the members 10 and 11. These plates 20 are recessed as at 21 to provide space for the rail securing bolts 22 which are passed through the apertures of the angle irons 18 and the heads 23 of which engage with the flanges of the rail.

The rail seat as best shown in Fig. 5 is formed of channel iron having its flanges cut away adjacent each end as at 24 and having the free web portions thus formed at the ends bent downwardly as at 25, to form flanges adapted to engage with the sides of the tie and prevent the seat from moving transversely thereof.

In operation the ties are laid in the customary manner, the rail seats are positioned across the ties and between the plates 20

with their downwardly directed flanges engaging against the outer faces of the ties and the rail is put in place. The bolts are then passed downwardly between the flanges of the rail and the plates 20 which plates as explained are recessed sufficiently to permit the passage of the bolt shanks and are passed through the apertures of the members 18 until their heads bear upon the flanges of the rail and upon the plates 20, and secured by nuts 26 thus firmly securing the rails in place.

As will be readily seen the plates 20 not only serve to hold the rail seats in position but also act to prevent the bolts from spreading away from the rails and becoming disengaged therefrom.

It will of course be understood that minor details of construction may be made if desired without in the slightest degree departing from the spirit of my invention.

What I claim is:—

1. The combination with a tie, of an angle-bracket secured to one side thereof including a perforated lateral member, and rail engaging bolts engageable in the perforations of the lateral member of said bracket.

2. The combination with a tie, of an angle-bracket secured to one side thereof including a lateral member, rail securing means engageable with the lateral member of said bracket, and stop elements secured to the tie for preventing lateral movements of the rail and the rail securing means.

3. The combination with a tie, of an angle-bracket secured to one side thereof including a perforated lateral member, rail engaging bolts engageable in the perforations of the lateral member of said bracket, and stop elements secured to the tie for preventing lateral movements of the rail, said elements being recessed to receive the rail engaging bolts.

4. The combination with a tie, of an angle-bracket secured to one side thereof including a perforated lateral member, rail engaging bolts engageable in the perforations of the lateral member of said bracket, and stop plates secured to the top of the tie for preventing lateral movements of the rail, said plates each projecting beyond the respective side of the tie and over the bracket, the inner faces of the projecting ends of said plates being recessed to receive the rail engaging bolts, whereby lateral movements of said bolts will be prevented.

5. In a composite tie, the combination of a pair of spaced side members formed of

channel metal including upper and lower inwardly directed longitudinal flanges, transverse angle-irons disposed between the side members at either end thereof and seated upon the lower flanges of said members, tie rods connecting the members, and a plastic filling between said side members and between said angle-irons.

6. The combination with a tie formed of spaced side members reinforced by a filling of plastic material, of rail securing means carried by the tie, said means consisting of angle members secured to the outer faces of said side members and having their laterally directed sides provided with bolt-receiving apertures, and rail engaging bolts engageable with the apertures of the laterally directed sides of the angle members.

7. The combination with a tie formed of spaced side members reinforced by a filling of plastic material, of rail securing means carried by the tie, said means consisting of angle members secured to the outer faces of said side members and having their laterally directed sides provided with bolt-receiving apertures, a rail-seat extending across said tie and provided at either end with downwardly directed flanges engaging against the side members thereof, and rail engaging bolts engageable with the apertures of the laterally directed sides of the angle members.

8. The combination with a tie formed of spaced apart side members reinforced by a filling of plastic material, of rail securing means carried by said tie, said means consisting of angle members secured to the outer faces of said side members and having their laterally directed sides provided with bolt receiving apertures, a pair of spaced plates secured upon the upper faces of said side members and extending outwardly beyond the same, said plates being provided with recesses in alinement with the apertures of the angle members, a rail seat extending across said tie and provided at either end with downwardly directed flanges engaging against the sides thereof, said rail seat being positioned between said plates, and bolts passed downwardly between the rail flanges and said plates and engaging with the bolt receiving apertures of the angle members.

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

ROBERT C. WATSON.

Witnesses:

FRANCIS BOYLE,
GEO. H. CHANDLEE.