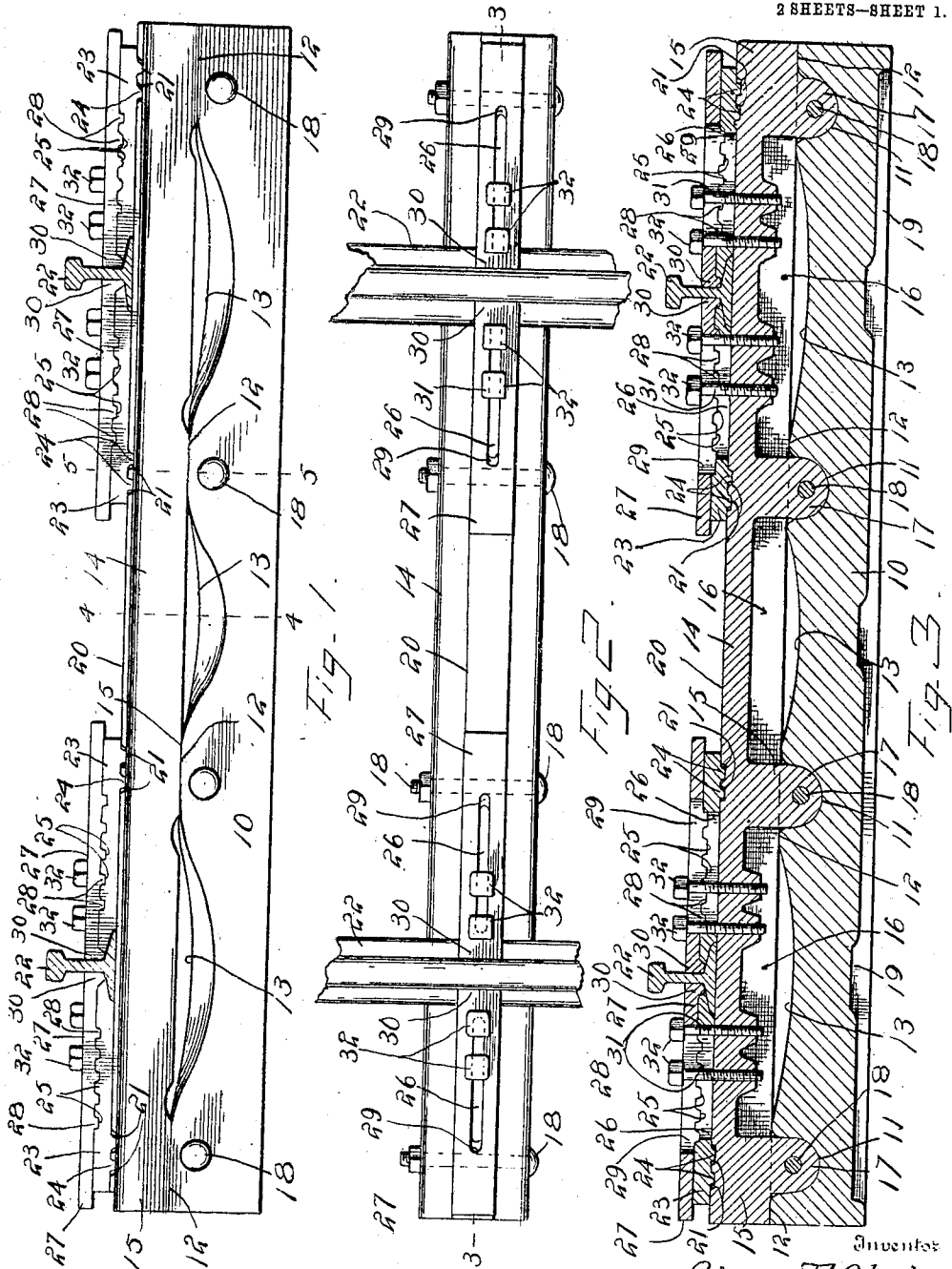


916,419.

Patented Mar. 30, 1909.

2 SHEETS—SHEET 1.



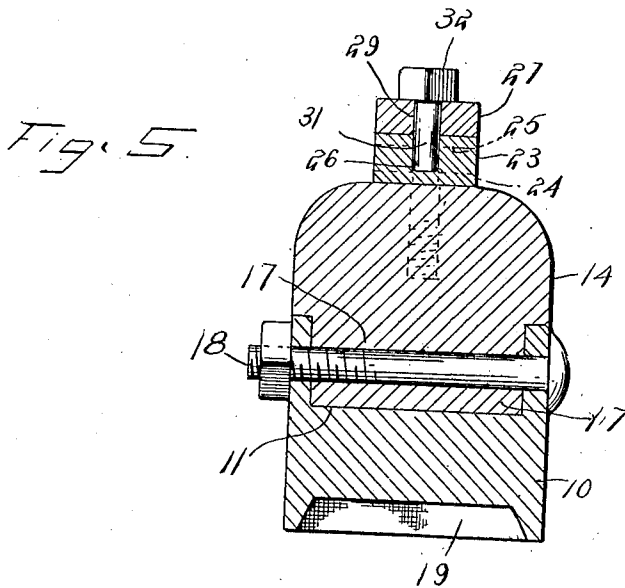
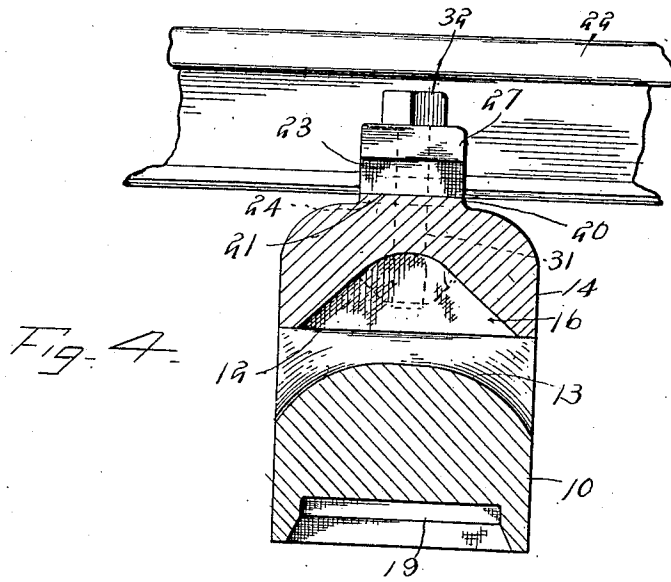
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A. T. CHARLIER.
RAILROAD STEEL TIE.
APPLICATION FILED DEC. 30, 1908.

916,419.

Patented Mar. 30, 1909.
2 SHEETS—SHEET 2



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UNITED STATES PATENT OFFICE.

ALFRED T. CHARLIER, OF LIVONA, NORTH DAKOTA.

RAILROAD STEEL TIE.

No. 916,419.

Specification of Letters Patent.

Patented March 30, 1909.

Application filed December 30, 1908. Serial No. 470,074.

To all whom it may concern:

Be it known that I, ALFRED T. CHARLIER, a citizen of the United States, residing at Livona, in the county of Emmons, State of North Dakota, have invented certain new and useful Improvements in Railroad Steel Ties; 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 railway ties, more particularly to devices of this character constructed wholly of metal, and has for one of its objects to improve the construction and increase the efficiency and utility of devices of this character.

Another object of the invention is to provide a device of this character constructed of two main portions one of which is embedded in the ballast or roadbed when the device is employed upon the ground, or provided with suitable fastening means when the device is employed upon bridges, trestles or elevated railway structures, and with suitable clamping means whereby the rails are connected to the other main portion of the device.

With these and other objects in view the invention consists in a tie constructed with a base portion adapted to be embedded in the ballast or secured to a suitable supporting structure, and an upper portion or member secured to the lower member and with suitable clamping devices for securing the rails to the upper member.

The invention further consists in certain novel features of construction as hereafter shown and described and then specifically pointed out in the claims, and in the drawings illustrative of the preferred embodiment of the invention, Figure 1 is a side elevation of the improved device with the rails located thereon, the rails being in transverse section. Fig. 2 is a plan view of the parts shown in Fig. 1. Fig. 3 is a longitudinal section on the line 3—3 of Fig. 2. Fig. 4 is a transverse section enlarged, on the line 4—4 of Fig. 1. Fig. 5 is a transverse section enlarged, on the line 5—5 of Fig. 1.

The improved device comprises a base member 10 of the usual length of an ordinary railway tie, which is usually about eight feet, and adapted to be embedded in the ballast of the roadbed when the railway track is to be

carried upon the ground in the ordinary manner, or to be attached by bolts or other suitable fastening means to the supporting structure when the track is to be carried over trestles, or like elevated supporting structures, but as the means for fastening the ties are so well known it is not deemed necessary to further illustrate the securing means.

The base member 10 is provided with a plurality of spaced sockets 11, preferably with one socket near each end and with two of the sockets spaced at equal distances apart and at equal distances from the end sockets, as shown. Any required number of the sockets may be employed but four as shown will generally be provided.

The bottom face of the base member 10 is formed with hollow portions indicated at 19 into which the tamping material will enter to assist in holding the base member in position, and prevent lateral displacement when the track is erected upon an ordinary roadbed. The hollow portions 19 also lighten the base member 10 and reduce the lower bearing faces so that the base member bears with increased stability upon the supporting structures, such as bridges, trestles or the like. The upper face of the base member 10 adjacent to the sockets is formed with bearing faces 12 while the portions of the base member between the sockets is cut away, as shown at 13.

Bearing upon the spaced faces 12 of the base member is an upper member 14, preferably formed of steel with the portions opposite the bearing faces 12 solid as shown at 15, and with the under side hollowed out between the bearing faces, as shown at 16. By this means the member 14 is reduced in weight except at its bearing points whereby the maximum of strength is secured with the minimum of weight, the hollow portions 16 being formed where the least strains occur, as will be obvious.

Depending from the member 14 at each of its bearing portions 15 is a lug 17, each lug fitting into one of the sockets 11 of the base member 10. Formed through the base member 10 opposite each socket are bolt apertures to receive clamp bolts 18, the bolts likewise extending through apertures in the lugs 17. By this means the two members 10—14 are rigidly connected.

The upper face of the upper member 14 is formed with a raised longitudinal portion 20, and arranged transversely of this elevated portion preferably opposite the bearing faces 15 are spaced transverse seats 21.

The railway rails represented at 22 rest upon the upper member 14 and are spaced inwardly from the outer series of the seats 21, and preferably midway between the outer series of the seats and the next series of the seats, as shown.

Novel clamping devices are employed for securing the rails to the member 14, and as these clamping devices are alike the description of one will suffice for all. Two of the clamping devices are employed for each rail as shown, and each device consists of a bottom plate 23 having ribs 24 near their outer ends to bear in the seats 21, and with their inner ends formed to bear over the outer portions of the tie flanges of the rails. The ribs 24 being less in width than the seats the plates 23 may be adjusted longitudinally, as hereafter explained. The upper faces of the plates 23 are provided with a plurality of spaced cavities or seats 25. The plates 23 are each formed with a longitudinal slot 26, as shown.

Bearing upon each of the lower plates 23 is an upper plate 27 provided with a plurality of transverse ribs 28 engaging in the seats 25, when the two plates are superimposed, the plates 27 each having a longitudinal slot 29 corresponding to and registering with the slot 26 of the plate 23, and likewise provided with a depending head portion 30 arranged to bear against the vertical web portion of the rail 22. The ribs 28 of the plate 27 are of less width than the recesses 25 of the plates 23, so that the plates 27 may be adjusted to a limited extent longitudinally of the plates 23.

The member 14 is provided with threaded apertures opposite the slots 26—29, and clamp bolts 31 are arranged to engage in these threaded apertures and extend through the slots and are provided with enlarged heads 32 to bear upon the plate 27. By this means it will be obvious that the plates 23—27 may be firmly clamped in position upon the member 14 and arranged to bear firmly against the rails and hold them in position, the longitudinal slots in the plates enabling them to be adjusted as required to adapt them to rails of different sizes.

By this simple arrangement it will be obvious that the upper member 14 of the tie together with the clamping devices may be detached when required, or in case of break-

age or impairment, and the parts renewed or repaired without disturbing the base member.

The improved device is simple in construction, can be inexpensively manufactured, and applied wherever ordinary railway ties are used, and the rails not only firmly supported and held in position but the improved device adjusted to any required extent.

What is claimed, is:

1. A railway tie comprising a base member having a plurality of spaced sockets, an upper member bearing upon the base member and provided with a plurality of lugs engaging in said sockets, fastening means extending through said sockets and lugs, and clamp devices adapted to connect the rails to the upper member.

2. A railway tie comprising a base member, an upper member bearing upon the base member and provided with spaced transverse seats in the upper face, means for coupling said upper member to said base member, lower clamp plates each having ribs in their lower faces engaging in said seats and spaced transverse seats in their upper faces, and adapted to bear at their inner ends over the tie flanges of railway rails, upper clamp plates bearing upon the lower clamp plates and having ribs engaging the seats of the lower clamp plates, and adapted to bear at their inner ends against the vertical webs of railway rails, and means for clamping said plates to said upper tie member.

3. A railway tie comprising a base member, an upper member bearing upon the base member and provided with spaced transverse seats in the upper face, means for coupling said upper member to said base member, lower clamp plates each having a longitudinal slot and ribs in their lower faces engaging in said seats and spaced transverse seats in their upper faces, and adapted to bear at their inner ends over the tie flanges of railway rails, upper clamp plates bearing upon the lower clamp plates and each provided with a longitudinal slot and having ribs engaging the seats of the lower clamp plates, and adapted to bear at their inner ends against the vertical webs of railway rails, and clamp bolts operating through said slots and clamping said plates adjustably to said upper tie member.

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

ALFRED T. CHARLIER.

Witnesses:

DANL. E. CASH,
ARCH. D. MACINTYRE.