A. R. CLARKE.

RAILWAY TIE.

APPLICATION FILED SEPT. 23, 1908.

930,157.

Patented Aug. 3, 1909.

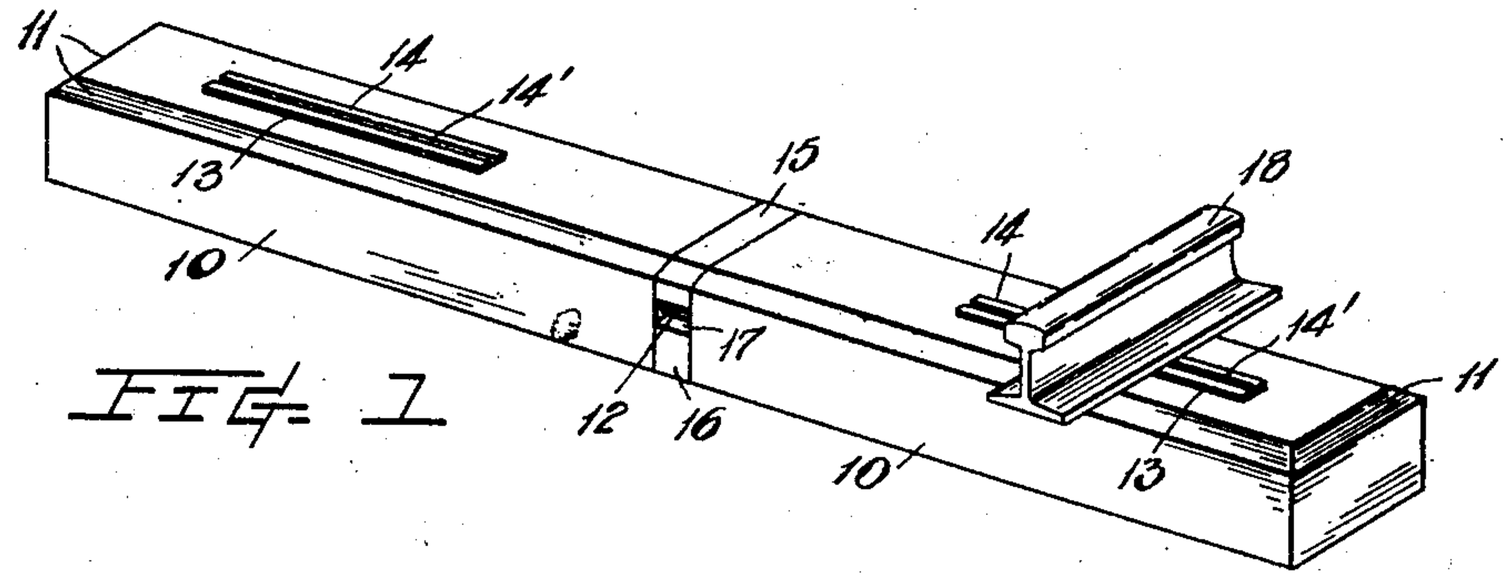
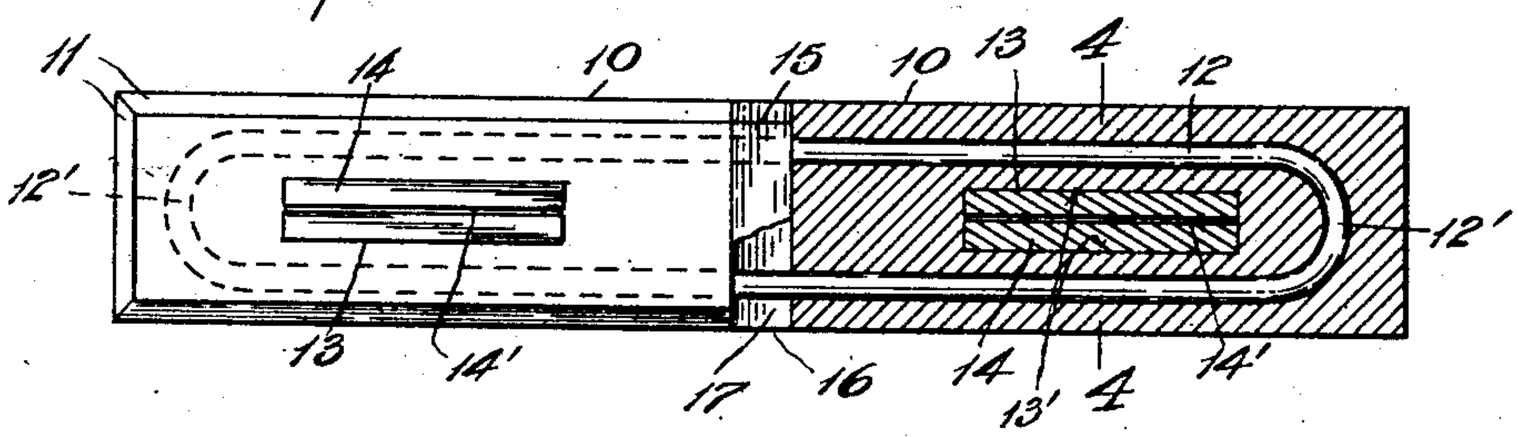


FIG. 1

FIG. 2



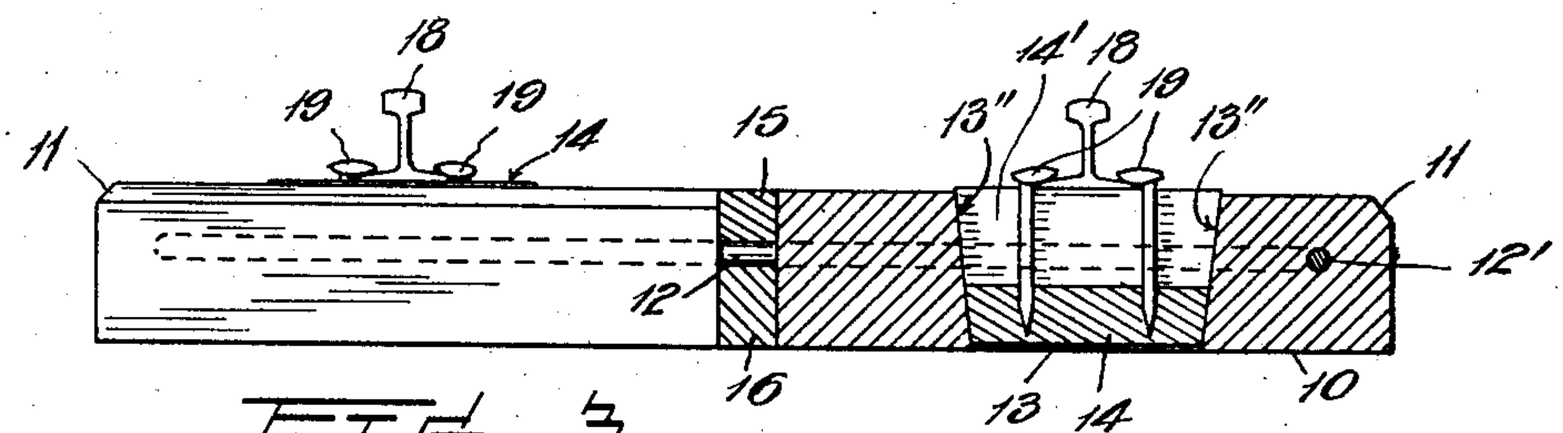


FIG. 3

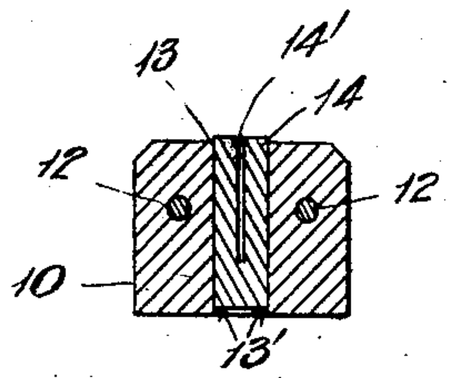


FIG. 4

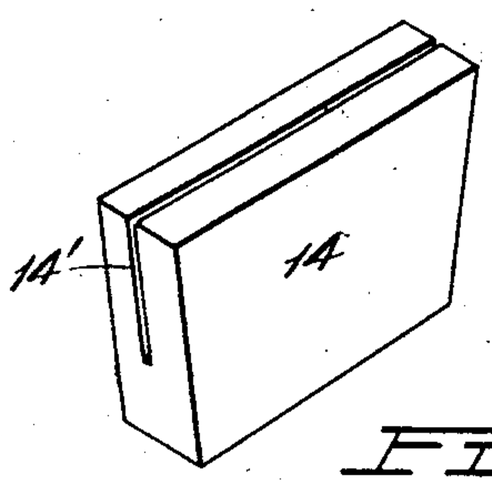


FIG. 5

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RAILWAY-TIE.

No. 930,157. Specification of Letters Patent. Patented Aug. 3, 1909.

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To all whom it may concern:

Be it known that I, ALVA R. CLARKE, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Railway-Ties, of which the following is a specification.

The object of this invention is the provision of a reinforced concrete tie of simple and inexpensive construction and to which the rails may be conveniently secured and maintained in such a manner as to afford a good track support.

The invention consists, first, in the novel construction of a tie comprised of two concrete members which are chambered for the reception of the rail seat-block; second, in the construction and adaptation of said seat-blocks to afford a suitable support for the respective rails and which are reliably held in place by the agency of the rail securing spikes; and third, in the manner of employing the reinforcing elements to serve to stiffen and strengthen the aforesaid concrete tie-members as well as to maintain the latter in spaced relation with each other for preventing the spread of the rails and yet allow of vibration to the individual members sufficient to accommodate the shocks imparted thereto from trains passing over the same.

Referring to the accompanying drawings, Figure 1 is a perspective view of a railway-tie embodying my invention with a rail shown as laid upon one of the blocks, but unsecured thereto. Fig. 2 is a view partly in plan and partly in horizontal section; and Fig. 3 is a view partly in side elevation and partly in longitudinal vertical section of the same. In Fig. 3 the rails of a track are illustrated as secured to the tie. Fig. 4 is a cross sectional view taken through 4—4 of Fig. 2. Fig. 5 is a perspective view of a seat block, shown detached.

According to this invention, a tie is formed of two concrete members 10 which are of substantially rectangular configuration. The top longitudinal and outermost transverse edges 11 of these members are, however, preferably chamfered to protect the same from chipping through exposure to the changes in atmospheric or other conditions to which a tie is subjected.

The two members of a tie are disposed to be in alinement and are maintained at some distance apart by the employment of a reinforcing metallic looped bar, or link, 12 which is embedded in the concrete in the molding of the tie. The link is of a length so as to have its loops, or extremities, 12′ extend to within a short distance of the ends of the tie. The link is preferably arranged in a horizontal plane, as shown in Figs. 2 and 3.

Each of the members 10 is apertured to furnish therein a chamber 13 having parallel vertical sides 13′, and ends 13″ which are inclined to slope downwardly toward each other in the respective members. These chambers are preferably extended through the respective members and lie in the longitudinal axis of the tie and at a distance apart to correspond with the gage of the track where employed. Provided for each of the chambers 13 is a seating-box 14 of wood or equivalent material. Such blocks are of a width to fit within or be slightly less than the chambers and are of a similar configuration in a vertical longitudinal plane to, but somewhat longer than, the respective chambers, thus causing the blocks when inserted in place, as shown in Figs. 1 and 3, to protrude above the tie. Each block is provided with a longitudinal slot 14′, such as a saw-kerf, extending its entire length and of a depth somewhat less than that of the block.

15 and 16 represent filling pieces of wood or of correspondingly elastic material which may advantageously be inserted within the gap 17 between the members 10 above and below the link 12 to prevent the dirt entering thereat and not materially affecting the independent movements of the said tie members.

In operation, the ties are laid upon or embedded in the track-bed, as usual, and when properly adjusted as to height the rails 18 are secured in place by spikes 19 being driven into the seating blocks 14 so as to pass through the slots 14′ thereof, as shown in Fig. 3, whereby the wood at each side of the slots is spread to make a binding fit between the blocks and the respective chambers. The wood elements, that is, the blocks 14, and also the filling pieces 15 and 16 where utilized, may be treated preparatory to their use with a suitable preservative, such as creosote, and, after the track is laid, a filler of tar may be poured into slots 14′ to exclude water or dirt therefrom.

The advantage derived from the use of a tie constructed in accordance with my invention is due principally to its flexibility

which is attained by the separation of the rigid concrete members by a coupling link giving the requisite flexibility to the structure in that part of the uniting link which spans the gap. The wood seating blocks also serve to cushion the jars encountered from a moving train, as well as affording convenient devices to cooperate to reliably secure the track rails in spaced positions. The seating blocks may obviously be renewed when unfitted for further use, consequently the life of a tie is governed by the durability of the concrete members and the metal coupling links therefor.

Having described my invention, what I claim as new and desire to secure by Letters-Patent, is—

1. A railway tie composed of two concrete members arranged to have their adjacent ends in spaced relation, a link embedded in both of said members and composed of sides and ends connecting the sides, said link sides extending across said space between the members, a pair of separate filling blocks engaging on the top and bottom faces of said link sides and extending flush with the top and bottom faces of said concrete members, each of said concrete members being formed with a chamber disposed adjacent the link ends and between the link sides, said chamber having its end walls converging toward the bottom, wooden blocks having inclined ends to conformably engage said end walls of the chambers, each of said blocks being formed with a longitudinal slot terminating above the bottom sides of the blocks, said slots being adapted to receive the rail spikes whereby the latter spread the wood on opposite sides of the slot to make a binding fit between the blocks and the chambers therefor.

2. A railway tie composed of a concrete member formed with a chamber having downwardly converging ends, and a wooden block having inclined ends to conformably engage said end walls of the chamber, said block being formed with a longitudinal slot which extends to points adjacent the bottom side thereof, said slot being adapted to receive the rail spikes whereby the latter spread the wood on opposite sides of the slot to make a binding fit between the blocks and the chambers therefor.

3. A railway tie composed of two concrete members arranged so that their adjacent ends are in spaced relation, a connecting member embedded in both of said concrete members so as to extend across the space between said members at points midway of the height of said concrete members, and a pair of separate filling blocks engaging the top and bottom faces of said connecting member and extending flush with the top and bottom faces of said concrete members.

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