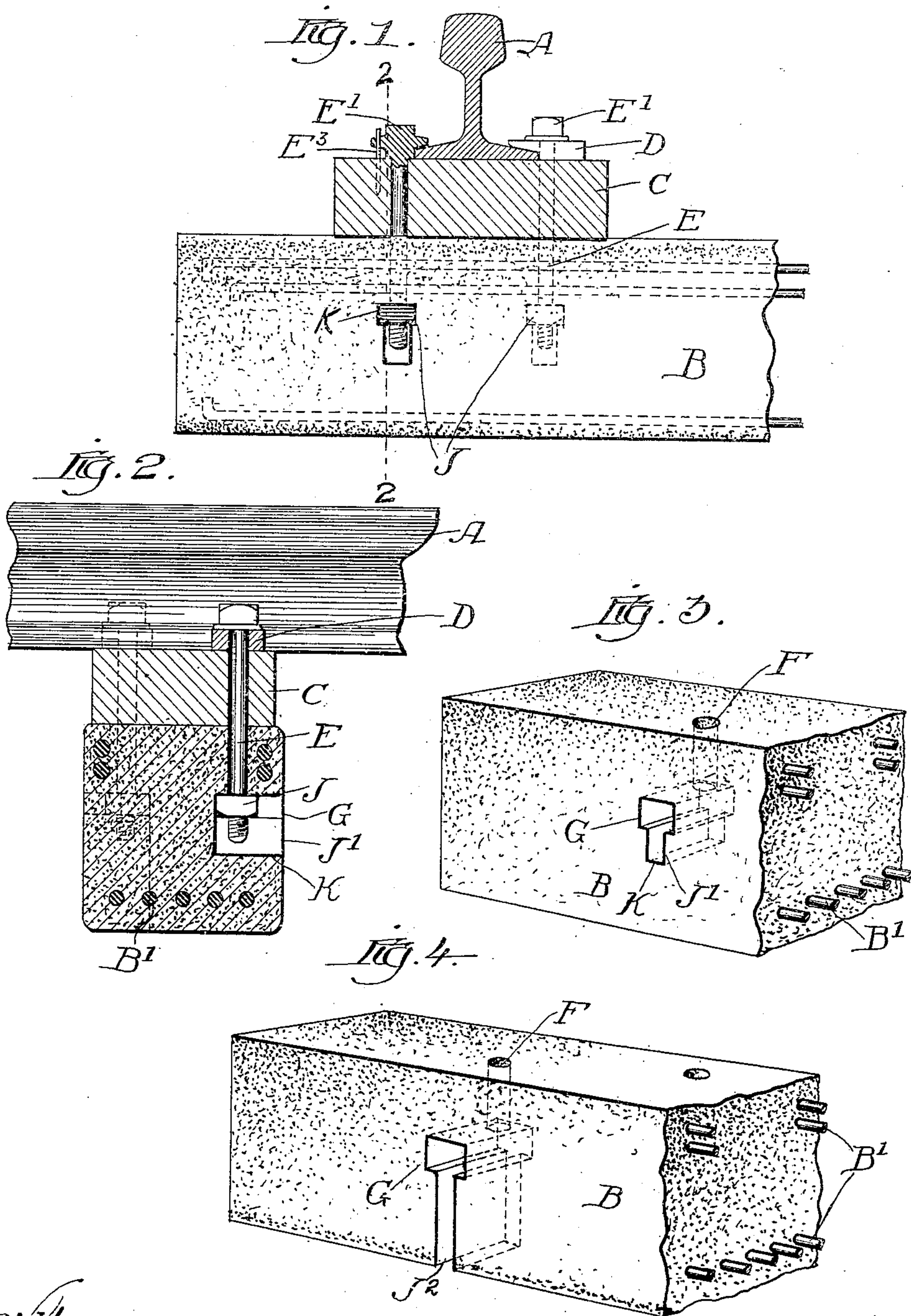


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 CONCRETE RAILWAY TIE.
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UNITED STATES PATENT OFFICE.

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CONCRETE RAILWAY-TIE.

955,547.

Specification of Letters Patent.

Patented Apr. 19, 1910.

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To all whom it may concern:

Be it known that I, WILLIAM H. PRUYN, Jr., a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Concrete Railway-Ties, of which the following is a specification.

My invention relates to concrete railway ties and has for its object to provide certain new and useful improvements more fully set forth hereinafter.

It is illustrated in the accompanying drawings, wherein—

Figure 1 is a cross section through a rail showing a portion of one tie in longitudinal section, the parts shown in dotted lines; Fig. 2 is a detail cross section on the line 2—2 of Fig. 1; Fig. 3 is a detail perspective of the tie end; Fig. 4 is a similar view of a modification.

Like parts are indicated by the same letter in all the figures.

A is the rail, B the body of the tie, preferably having the reinforcing rods B¹ B¹ embedded therein.

C is a plate preferably of wood and of any desired thickness, resting on top of the tie and furnishing a bearing place for the rail.

D, D are securing plates adapted to overhang the flange of the rail.

E E are bolts having bolt heads E¹ E¹ which lie upon the securing plates. These heads are preferably square so that the bolt can be turned by means of a wrench, though, of course, they could take any shape and could be let into the top of the securing plate. The bolt head itself could be shaped so as to overhang the flange, thus dispensing with such securing plates. The plate C could also be dispensed with though it is the preferred form.

F F are apertures in the tie for the bolts E E. They terminate below in a transverse pocket G which is preferably about the size of the nut J into which the lower end of the bolt is to be secured. This pocket may be provided with a downwardly projecting aperture J¹ or an enlargement thereof J², which latter extends through the base of the tie.

K is a sheet metal lining for the aperture.

The size and proportions of the several parts are capable of great change and variation without departing from the spirit of

my invention. I prefer, however, a bolt with a head adapted to be grasped by a proper tool whereby the bolt may be rotated, a bolt hole just about the size of the head, a pocket below just about the size of the nut, and a narrow opening below the pocket to receive that end of the bolt which projects beyond the nut. To this I would add the plate or shim as it is called which rests upon the top of the tie and receives the bottom of the rail. I have shown a sheet metal lining in some of the figures. It, of course, might be dispensed with but is preferred.

In Fig. 1 I have shown two forms of the bolt, one with the plate D, and the other with the head E¹ enlarged and shaped so as to overhang the flange of the rail. E³ is a spike which may be driven down past one corner of this enlarged head to prevent the bolt from unscrewing.

The use and operation of my invention are as follows: The ties being put in position, the rails upon them, my invention is easily applied for the purpose of securing the rail in position. The bolt with its overhanging part is inserted from above and passed through the hole in the nut. The nut is slid into place along the ledges at the sides of the pocket. The bolt can then be rotated until the parts are brought tightly together, when it will be locked by any suitable locking device and the end of the bolt will project through the pocket into the slot below. If desired this slit can be extended as indicated in Fig. 4 to the bottom of the tie. This is not in every case necessary but furnishes convenient means to get at the parts. When the pocket is of the size indicated, it holds the nut so as to prevent it from rotating and the tie is weakened by the least possible degree by the several apertures formed in it.

The sheet metal lining when used can be of one piece, thus accurately defining the shape of the holes and their several parts and it can be set into the mold, the concrete being filled in about it. With or without it, the desired result is the formation of an aperture in which the nut will snugly fit so that no tools are required to hold it or manipulate it but it is brought into position and held there by the shape of the cavity.

I claim:

1. A concrete tie having a vertical bolt hole and an intersecting thin lateral rec-

tangular nut pocket through the exterior wall of the tie, and of such size as to prevent rotation of the nut.

2. A concrete tie having a vertical bolt hole and an intersecting thin lateral rectangular nut pocket through the exterior wall of the tie, and of such size as to prevent rotation of the nut, in combination with a bolt which holds the flange of the rail, and a nut supported in the pocket which receives the end of the bolt.

3. A concrete tie having a vertical bolt hole and an intersecting thin lateral nut pocket through the exterior wall of the tie in combination with a bolt which holds the flange of the rail, and a nut in the pocket which receives the end of the bolt, said nut pocket of approximately the same cross section as the nut.

4. A concrete tie having a vertical bolt hole and an intersecting thin lateral nut pocket through the exterior wall of the tie in combination with a bolt which holds the flange of the rail, and a nut in the pocket which receives the end of the bolt, the side of said nut bearing against one wall of the pocket when the nut is in position.

5. A concrete tie having a vertical bolt hole and an intersecting thin lateral nut pocket through the exterior wall of the tie in combination with a bolt which holds the flange of the rail, and a nut in the pocket which receives the end of the bolt, said nut pocket of approximately the same cross section as the nut, the inner edge of the nut bearing against the inner surface of the pocket.

6. A concrete tie having a vertical bolt hole and an intersecting thin lateral rectangular nut pocket through the exterior wall of the tie, and of such size as to prevent rotation of the nut, and a contracted downwardly extending opening of smaller area than and below the bottom of the pocket.

7. A concrete tie having a vertical bolt hole and an intersecting thin lateral rectangular nut pocket through the exterior wall of the tie, and of such size as to prevent

rotation of the nut, in combination with a bolt which holds the flange of the rail, a nut in the pocket which receives the end of the bolt, and a downwardly extending opening of smaller area than and below the bottom of the pocket.

8. A concrete tie having a vertical bolt hole and an intersecting thin lateral nut pocket through the exterior wall of the tie in combination with a bolt which holds the flange of the rail, a nut in the pocket which receives the end of the bolt, said nut pocket of approximately the same cross section as the nut, and a downwardly extending opening of smaller area than and below the bottom of the pocket.

9. A concrete tie having a vertical bolt hole and an intersecting thin lateral nut pocket through the exterior wall of the tie in combination with a bolt which holds the flange of the rail, a nut in the pocket which receives the end of the bolt, the side of said nut bearing against one wall of the pocket when the nut is in position, and a downwardly extending opening of smaller area than and below the bottom of the pocket.

10. A concrete tie having a vertical bolt hole and an intersecting thin lateral nut pocket through the exterior wall of the tie in combination with a bolt which holds the flange of the rail, a nut in the pocket which receives the end of the bolt, said nut pocket of approximately the same cross section as the nut, the inner edge of the nut bearing against the inner surface of the pocket, and a downwardly extending opening of smaller area than and below the bottom of the pocket.

11. A concrete tie having a vertical bolt hole and an intersecting thin lateral nut pocket through the exterior wall of the tie of a size to snugly receive the nut and center it below the bolt hole.

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