No. 765,101. PATENTED JULY 12, 1904.

R. L. ROUIS.

RAILROAD TIE.

APPLICATION FILED APR. 8, 1904.

NO MODEL.

Fig. 1.

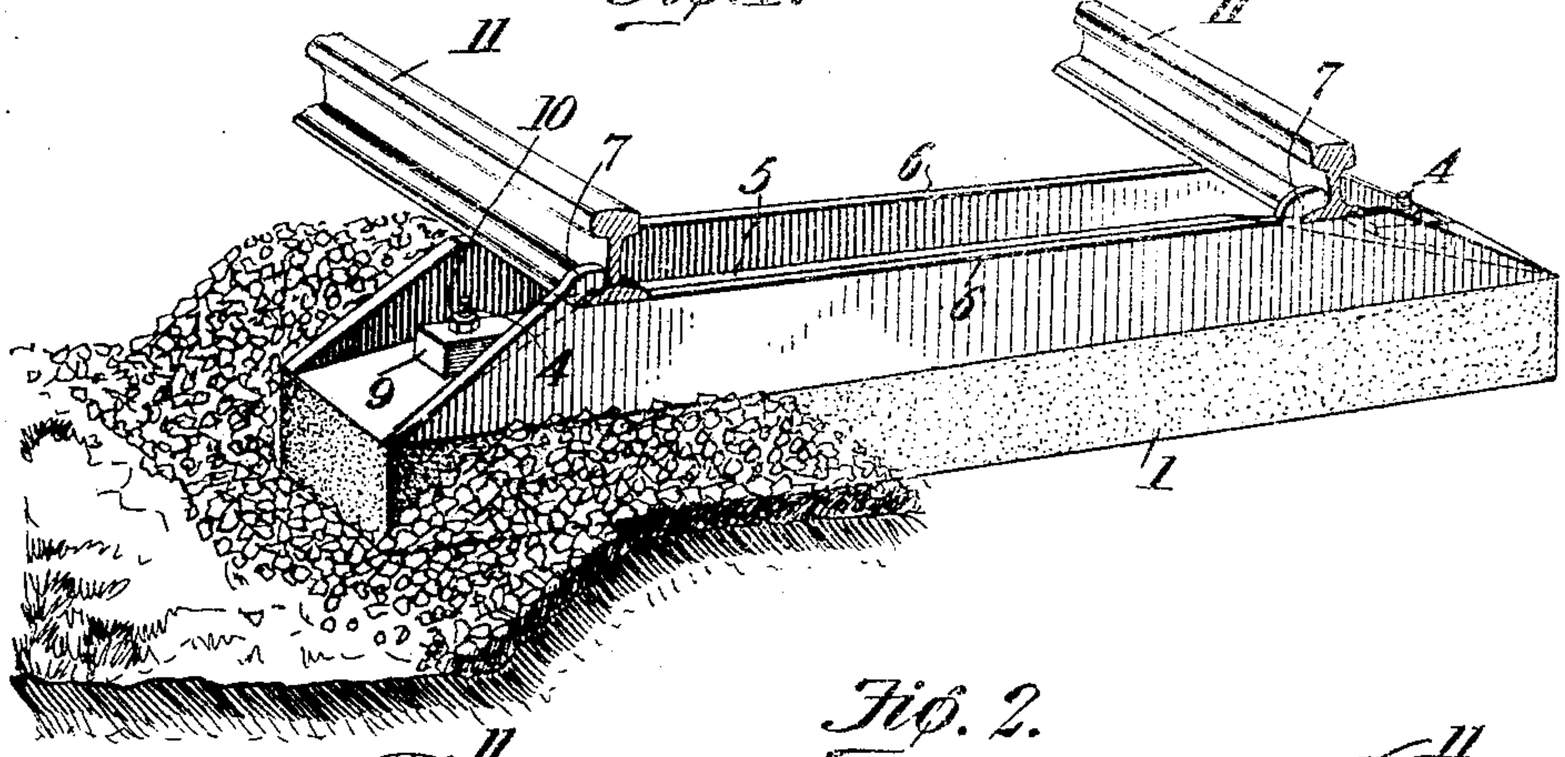
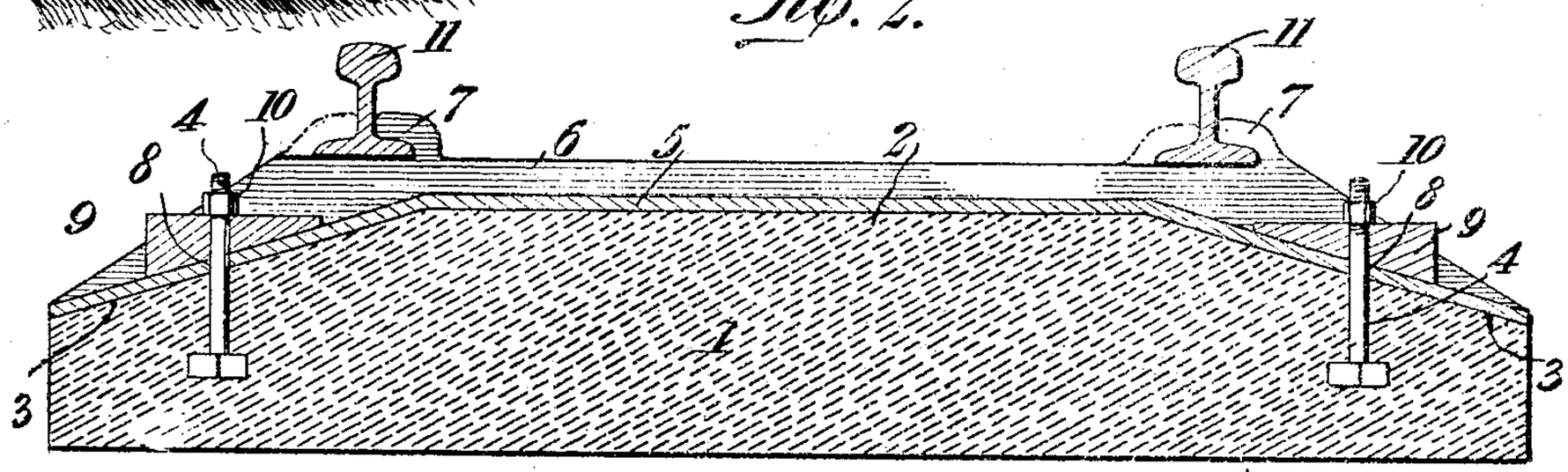


Fig. 2.



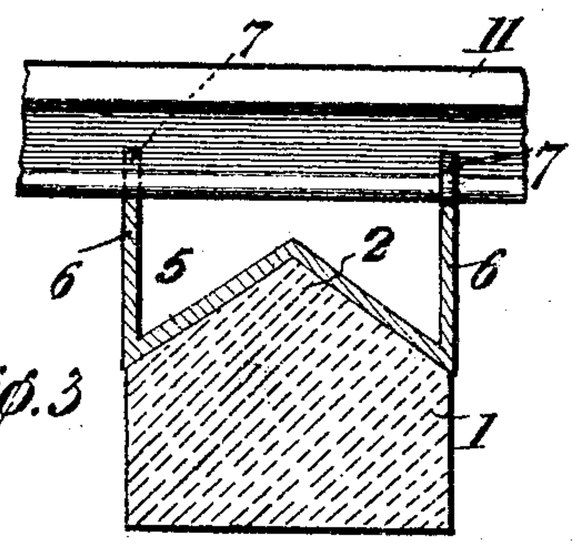


Fig. 3

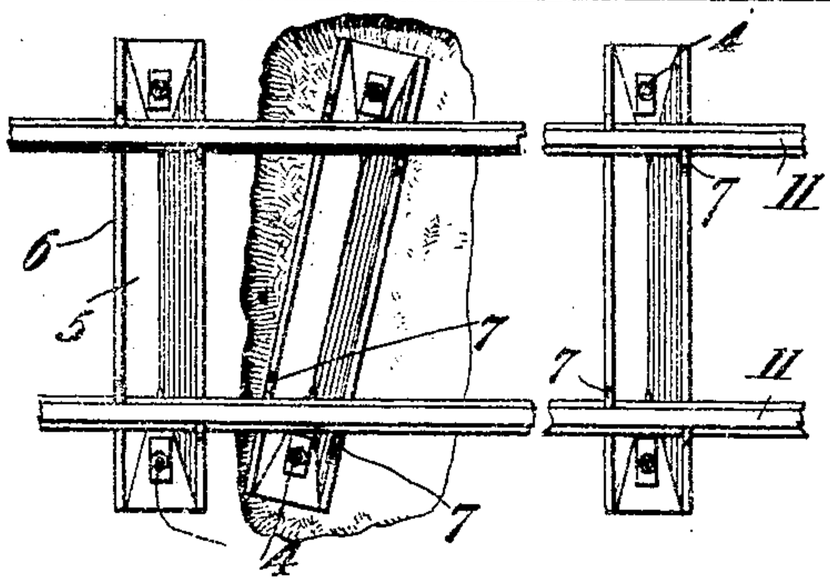
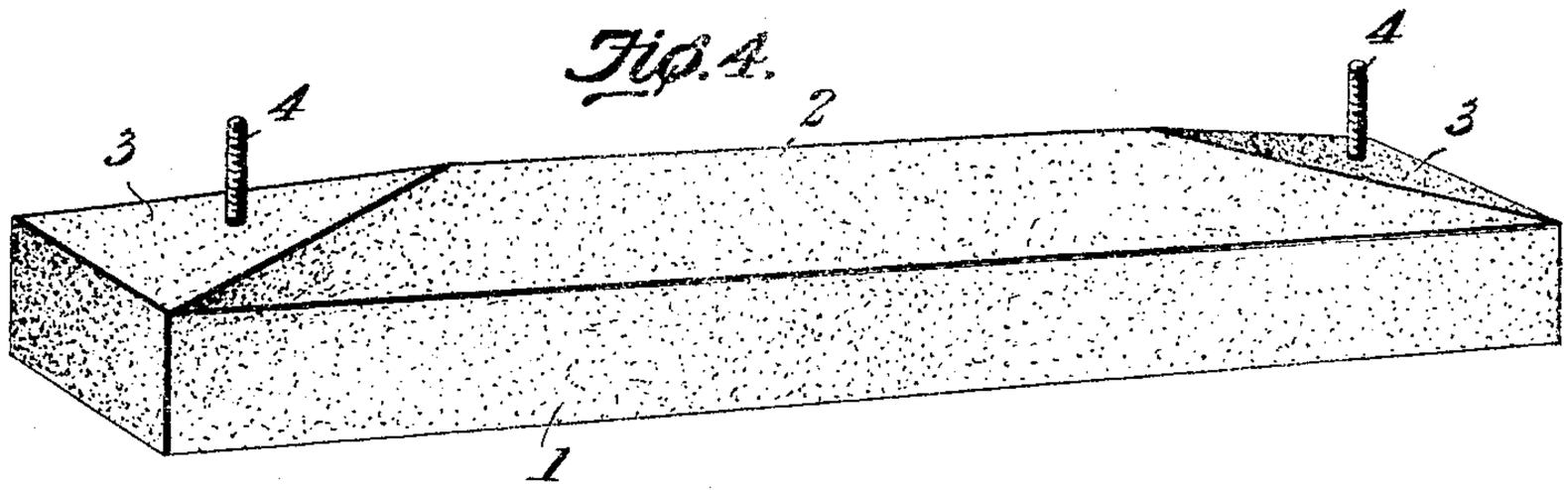


Fig. 5.

Fig. 4.



Witnesses

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No. 765,101. Patented July 12, 1904.

UNITED STATES PATENT OFFICE.

ROBERT LEE ROUIS, OF CATLIN, GEORGIA.

RAILROAD-TIE.

SPECIFICATION forming part of Letters Patent No. 765,101, dated July 12, 1904.

Application filed April 8, 1904. Serial No. 202,231. (No model.)

To all whom it may concern:

Be it known that I, ROBERT LEE ROUIS, a citizen of the United States, residing at Catlin, in the county of Laurens and State of Georgia, have invented a new and useful Railroad-Tie, of which the following is a specification.

This invention relates to railroad construction; and it has for its object to provide a railroad-tie adapted to support the rails and which shall possess superior advantages in point of simplicity, durability, inexpensiveness, and general efficiency.

With these ends in view the invention may be said to consist in a combined plastic and metallic tie, including a body made of plastic material and a cap which is constructed of metal, said parts being constructed and adapted to coöperate to engage and to hold the rails securely.

The invention further consists in the improved construction and novel combination and arrangement of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of embodiment of the invention, it being, however, understood that no limitation is made to the precise structural details therein exhibited, but that the right is reserved to all changes, alterations, and modifications which may be resorted to within the scope of the invention and without departing from the spirit or sacrificing the efficiency of the same.

In said drawings, Figure 1 is a perspective view of a railroad-tie constructed in accordance with the principles of the invention. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a transverse sectional view. Fig. 4 is a perspective view of the plastic body of the device, the cap having been removed from the same. Fig. 5 is a plan view illustrating the method of placing the ties under the rails in the process of road construction.

Corresponding parts in the several figures are indicated by similar numerals of reference.

In the construction of my improved railroad-tie is included a body 1, which is constructed of plastic material of any description, such as cement, concrete, beton, or any of the various plastic mixtures in which a binding medium, such as ordinary Portland cement, is employed. The body 1 is made preferably rectangular in plan of the size and outline of an ordinary wooden tie, although it is to be understood that I do not limit myself as to the size or form of said body. The upper part of the latter, however, is molded with a gable 2, having inclined ends 3 3, so that moisture will be shed from all sides. In the process of molding or otherwise forming the body 1 a pair of vertically-disposed bolts 4 4 are embedded in the latter, the threaded ends of said bolts extending through and above the inclined ends 3 3.

5 designates a metallic cap which is fitted to the upper side of the body 1—that is, to the gable and to the inclined ends of the latter. Said cap is provided at the edges thereof with upwardly-extending vertically-disposed flanges 6 6, provided at their upper edges with rail-engaging hooks 7, each flange being provided with a pair of these hooks and the hooks upon the two flanges being faced in opposite directions and suitably spaced apart, so that when a pair of rails are placed in position and the tie having the cap is placed obliquely below said rails a slight lift and partial turn of the tie will cause the hooks to engage the rail-flanges, whereby the tie and cap will thus be suspended until the ground underneath the tie has been filled and tamped sufficiently to support the latter. The cap 5 is connected securely with the body 1 of the tie by means of the bolts 4, which extend through perforations 8 in the inclined ends of the cap-plate. Upon the extended ends of the bolts are placed wedge-shaped washers 9, against which the nuts 10 are tightened, thus rigidly and permanently connecting the members of the tie.

In the process of road construction a pair of rails (designated 11) may be first supported at their ends upon a pair of the improved ties, as will be seen in Fig. 5 of the drawings, said rails being properly graded and leveled. Trenches are then dug at suitable intervals and of sufficient width and depth to enable the intermediate ties to be inserted under the rails, after which by partly lifting and turn-

ing the ties the hooks 7 thereof will be caused to engage the rail-flanges, by which the ties will thus be supported until the said ties are made secure by ballasting and tamping underneath.

In the construction of railroads where ties of ordinary construction are used it is well known that after a short time the ties will settle and that consequently a considerable vibration will be created in the rails by rolling-stock passing over the latter. This vibration, which is known as "churning," has a tendency, especially in wet weather, to cause the ballast to be expelled from beneath the ties by the up-and-down movement of the latter when trains are passing over the road. The ties will thus in a short time become completely loosened, and the road will be in a dangerous condition unless the ties and ballast are constantly and carefully looked after. By my improvement as soon as the ties begin to settle the nuts 10 upon the connecting-bolts 4 are to be loosened, and the bodies of the ties will thus be permitted to settle, while the caps 15 will practically be suspended from the rails, thereby avoiding the objectionable churning of the ties. The consequence is that the ballast of the road will receive comparatively little or no injury and that after a proper time has been permitted to elapse for the ties to settle a single reballasting and retamping will be all that is necessary to accomplish the same salutary effects which when ordinary ties are employed it frequently requires a number of operations to accomplish.

The cap 5, with its flanges 6, may be either cast or stamped or otherwise constructed from metal in any convenient manner. The rail-flange-engaging hooks may be integral with said flanges, or they may be detachably connected therewith, if preferred, within the scope of the invention.

Owing to the peculiar construction of the plastic bodies of the ties with gable-shaped upper sides having inclined ends it is absolutely impossible for the rail-supporting caps to become displaced even after the nuts 10 have been loosened to enable the caps to take up the vibration of the rails, the caps being inevitably guided properly to their seats upon the plastic bodies owing to the construction set forth.

Having thus described the invention, what is claimed is—

1. A rail-supporting device consisting of a plastic body having a gable-shaped upper side provided with inclined ends, a metallic rail-supporting cap fitted to the same, connecting-bolts, wedge-shaped washers upon the latter engaging the inclined ends of the cap, and tightening-nuts.

2. A rail-supporting device consisting of a plastic body having a gable-shaped upper side with inclined ends, bolts embedded in and extending upwardly from said body at the inclined ends thereof, a metallic rail-supporting cap fitted to the upper side of the body and having inclined ends provided with perforations for the passage of the bolts, wedge-shaped washers, and tightening-nuts.

3. A rail-supporting device including a plastic body, and a rail-supporting cap having rail-flange-engaging hooks supported upon and detachably connected with said body.

4. A railroad-tie consisting of a body formed of plastic material and having a gable-shaped upper side provided with inclined ends, bolts embedded in said body and extending upwardly from the inclined ends, a metallic cap fitted to the top of the tie and having perforations for the passage of the bolts, wedge-shaped washers and tightening-nuts upon the latter, and rail-supporting flanges extending upwardly from the edges of the cap and having rail-flange-engaging hooks.

5. A railroad-tie or rail-supporting device including a plastic body having an upper side which is inclined from its apex downwardly in all directions, a metallic cap fitted to the upper side of said body and connected detachably therewith, flanges extending upwardly from the lower edges of said cap, and rail-engaging means connected with said flanges.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ROBERT LEE ROUIS.

Witnesses:
T. D. SMITH,
J. H. WALTON.