A. R. GONZALEZ.

RAILROAD CONSTRUCTION.

APPLICATION FILED FEB. 7, 1920.

1,390,203. Patented Sept. 6, 1921.

Fig. 2.

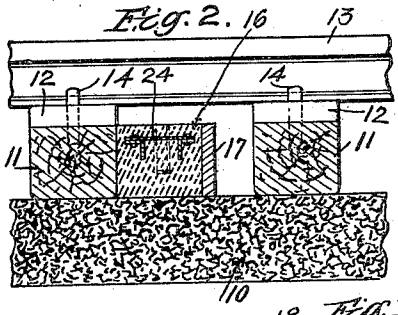


Fig. 3.

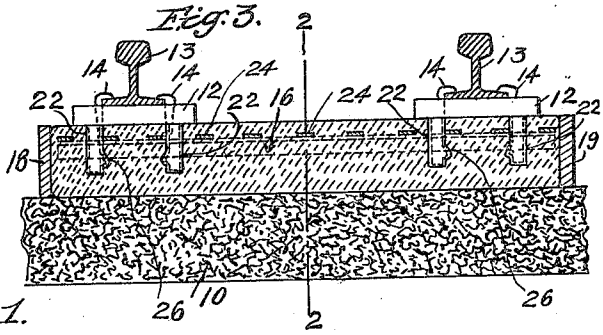


Fig. 1.

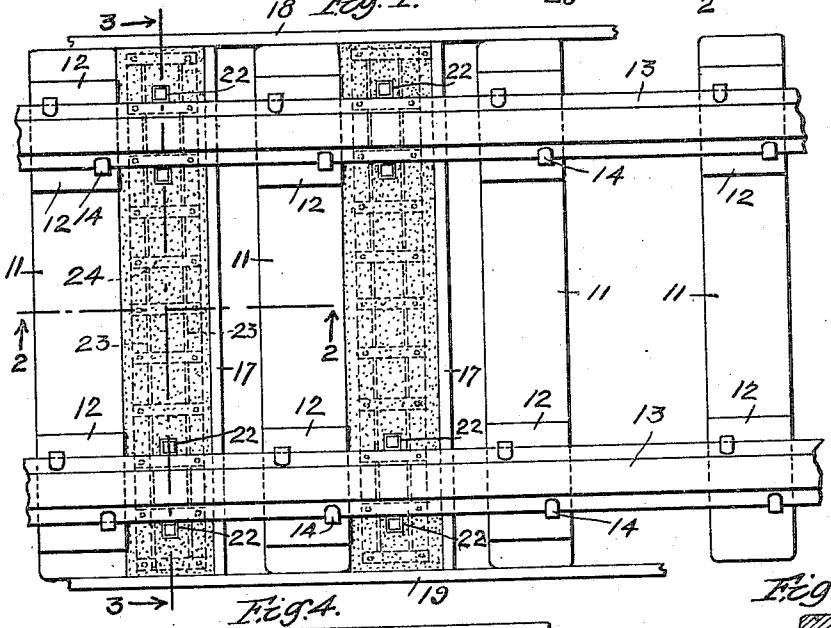


Fig. 4.

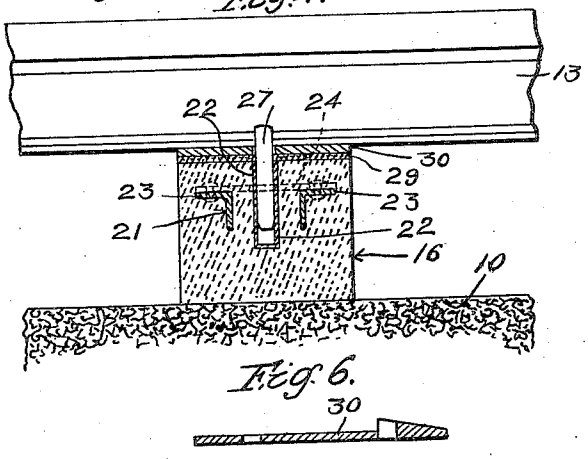


Fig. 5.

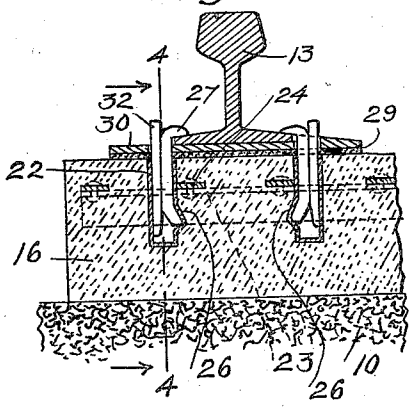


Fig. 6.

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RAILROAD CONSTRUCTION.

1,390,203. Specification of Letters Patent. Patented Sept. 6, 1921.

Application filed February 7, 1920. Serial No. 356,834.

To all whom it may concern:

Be it known that I, ALVIN R. GONZALEZ, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Railroad Construction, of which the following is a specification.

This invention relates to railroad construction, and the method of forming the same, and is particularly directed to that type of railway construction in which the ties are formed of reinforced concrete or material of a similar nature, having embedded therein suitable means whereby the rails may be firmly secured thereto in properly gaged and parallel relation.

The main object of my invention is to provide a method of constructing a firm, substantial, indestructible and cushioned railway, whereby the ties may be conveniently formed on the spot and the rails laid progressively, thus eliminating the time and expense incurred by first manufacturing the ties at a central point, transporting them to the work and leveling and truing them to receive the rails.

Other objects will appear in the following description, will be pointed out in the claims and will be embodied in the accompanying drawings, in which:

Figure 1 is a plan view of a portion of the road, showing the method of constructing the same.

Fig. 2 is a fragmental longitudinal section of the same, taken on the line 2—2 of Fig. 1.

Fig. 3 is a transverse section of the same, taken on the line 3—3 of Fig. 1.

Fig. 4 is an enlarged longitudinal section of a fragment of the road as it would appear when finished and ready for commercial use, taken on the line 4—4 of Fig. 5.

Fig. 5 is an enlarged transverse section of a fragment of the road.

Fig. 6 is a vertical sectional view of the tie plate.

In constructing the road I first provide a road bed 10 of suitable depth and width, which is composed of broken rock and hot oil, properly leveled and rolled down in order to give resiliency and to avoid deadness to the rails. Mounted on the road bed 10, and spaced suitably apart are the temporary ties 11, which are of usual shape and preferably formed of wood. Mounted on the tops of ties 11 are the blocks 12, and mounted on blocks 12 are the rails 13, which are secured to ties 11 by means of the usual spikes 14 which pass through suitable perforations in blocks 12 and are driven into ties 11.

The ties and rails as above described are only temporary laid and serve as a means for carrying forward progressively the materials for forming the road bed 10, and the permanent ties 16. The blocks 12 serve to elevate the rails 13 a suitable distance above their ultimate level, in order that the cement ties may be conveniently formed.

In order to build up the permanent ties 16, a board 17 is placed parallel with a tie 11, and spaced therefrom a distance sufficient to form a tie of the width desired. Suitable longitudinal mold boards 18 and 19 are placed adjacent the ends of ties 11, as shown in Figs. 1 and 3, in order that the length of the ties 16 may be properly gaged. The boards 17, 18 and 19 and the side of tie 11 combine to form a mold for the building up of the permanent ties 16. Cement is then dumped into the mold thus formed, and built up a suitable distance, and then a suitable steel reinforcement member 21 is inserted into the cement, as well as suitable permanent rail fastening sockets 22. The cement is then tamped around the members 21 and 22 and formed to a level with ties 11, as clearly shown in Figs. 2 and 3 of the drawings.

The reinforcing member 21 comprises a pair of oppositely disposed angle irons 23, which are disposed in longitudinal relation with the tie 16, and are secured together by means of a plurality of transverse straps 24, which are riveted thereto as shown.

Each of the sockets 22 comprises a rectangular tube which is closed at its bottom and open at its top, and is provided adjacent its lower end with an indent 26 adapted to receive the bent end of a fastening spike 27. The sockets 22 are properly gaged when they are embedded into the cement ties 16, in order that the rails when secured thereby will be true and in proper spaced relation with each other.

After the ties 16 have been built up in the manner above described, the temporary spikes 14 are drawn and one of the rails moved aside, the ties 11 and blocks 12 are then removed and the rails are then allowed to rest upon the permanent ties 16, as shown

in Figs. 4 and 5 of the drawings. In order that an additional cushioning effect of the rails 13 may be had, I place under said rails at each tie, a piece of tar paper or other suitable material 29, and I also arrange a suitable tie plate 30 between said tar paper and the rail, as clearly shown in Figs. 4 and 5. The tar paper 29 and tie plate 30 are both provided with suitable perforations through which pass the permanent fastening spikes 27. The fastening spikes 27 are held securely into engagement with the flange of the rails by means of the wooden plugs 32, which are driven into the sockets 22 adjacent said spikes. By means of the plugs 32, the bent ends of fastening spikes 27 are caused to project into the indents 26, thus securing said fastening devices securely into said said sockets.

What I claim is:

1. The method of progressively constructing a railway, which consists of first forming a road bed composed of broken stone and hot oil, then laying temporary ties and rails thereon to form a track over which the materials for forming advanced sections of the road may be hauled, then forming reinforced permanent concrete ties on said road bed between said temporary ties provided with suitable rail fastening devices, then removing said temporary ties and allowing said rails to rest upon said permanent ties, and then securing said rails to said permanent ties by means of said fastening devices.

2. The method of progressively constructing a railway, which consists of first forming a road bed of suitably packed broken stone and hot oil, then laying temporary ties on said bed, then placing suitable rail elevating blocks on said ties, then laying rails on said blocks and securing them to said ties to form a track over which the materials for forming advanced sections of a permanent road may be hauled, then forming reënforced permanent concrete ties on said road bed between said temporary ties provided with suitable rail fastening devices, then removing said temporary ties and elevating blocks, and allowing said rails to rest upon said permanent ties, and then securing said rails to said permanent ties by means of said fastening devices.

In witness that I claim the foregoing I have hereunto subscribed my name this 27th day of January, 1920.

ALVIN R. GONZALEZ.