

E. WILSON.
CONCRETE RAILROAD ROADBED.
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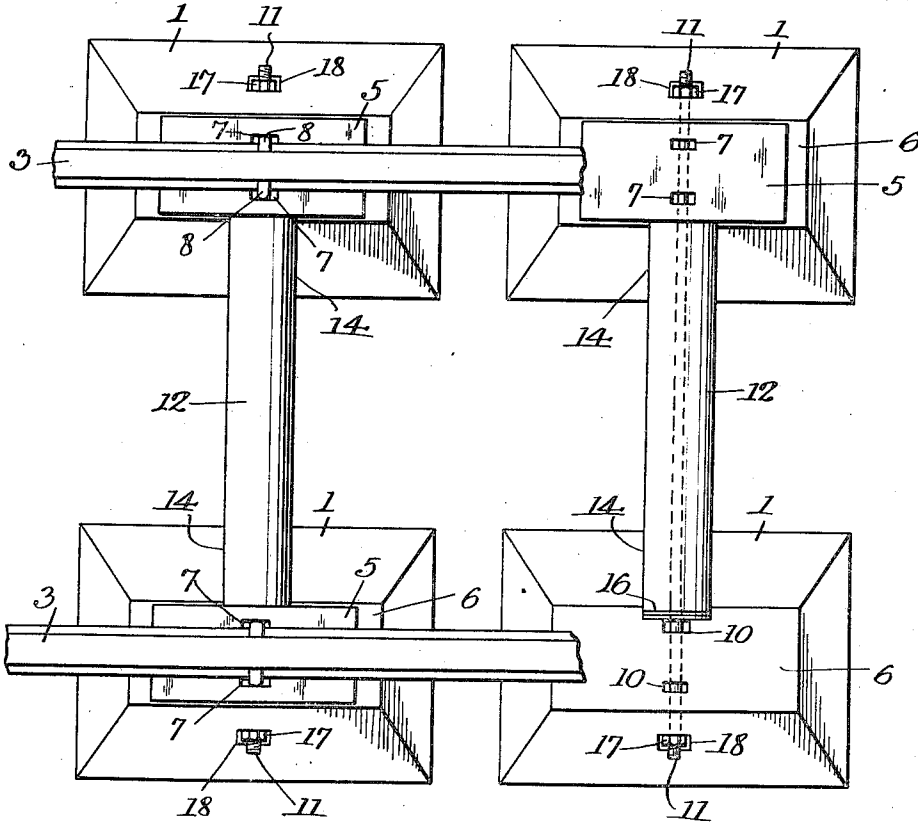


Fig. 1.

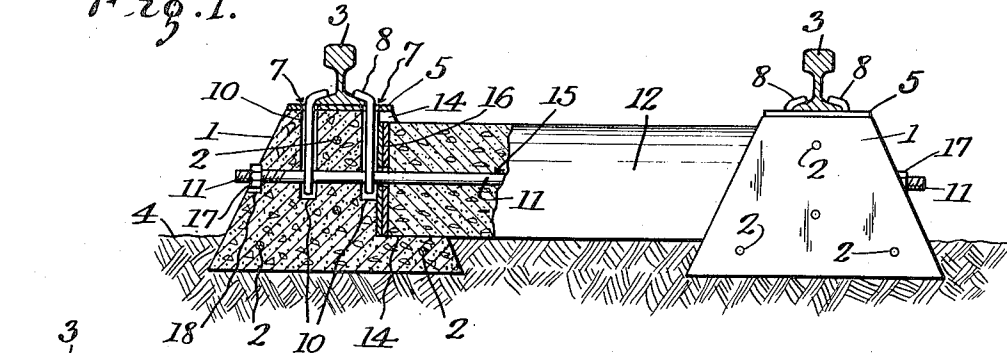


Fig. 2.

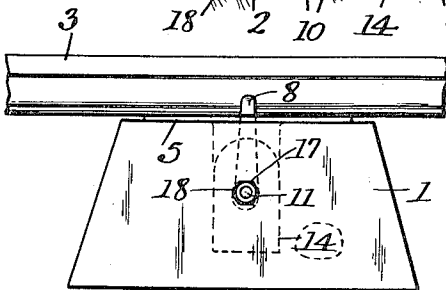


Fig. 3.

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UNITED STATES PATENT OFFICE.

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CONCRETE RAILROAD ROADBED.

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To all whom it may concern:

Be it known that I, EDWIN WILSON, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Concrete Railroad Roadbeds, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawing, forming a part hereof.

My invention consists in the novel construction and combination of parts herein-after particularly described and distinctly claimed.

The object of my invention is to provide an improved flexible, or cushioned, concrete railroad road-bed, without the use of wooden ties; which shall have safety-appliances that will do away with track spreading; that will permit an increase in the speed of trains, without danger from track troubles; that will firmly hold the rails in place at curved points; that will keep the track in place in flooded districts, inasmuch as a railroad road-bed constructed in accordance with my invention cannot float away when flooded; that will make American railroads more beautiful and artistic; that will save millions of dollars in timber, and relieve the present timber shortage; that will prevent low joints, which heretofore have been the cause of numerous broken rails and wrecked trains; that will save millions of dollars in railroad-spikes; and that will be cheaper in the long-run than wooden tie road-beds, because my road-bed will last much longer, and will require less repairs than wooden-tie road-beds.

A further object of my invention is to provide concrete railroad road-beds in complete portable sections, which can be manufactured at terminal points, or at any point along the road where a sufficient supply of stone may be conveniently had, and the complete sections may be shipped from the plant to the point at which they are to be used, where they may be quickly placed in position by unskilled laborers; and the good parts of the sections that are to be repaired or replaced, can be saved and used again.

In the drawings,
Fig. 1 is a top plan-view of two complete sections of my concrete road-bed, with

the sections spaced a proper distance apart to firmly support the rails.

Fig. 2 is a cross-section, or end-view, of the road-bed, and

Fig. 3 is a detail outside elevation of one of the concrete side-beams supporting the rail, and showing how the spikes engage the rail-flange and tie-rod.

I will describe the detail construction of but one section, as all are alike.

The numeral 1 designates opposite side-beams, which are composed of high-grade concrete that is reinforced by suitable metal rods 2, in the usual well-known manner. Fig. 2.

In the present illustration the said side-beams 1 are placed in pairs along the road-bed, at a suitable distance between pairs to insure the proper support of the rails 3.

Said side-beams 1 may, in the present instance, be made 42 inches long on the bottom, 30 inches wide at the bottom, 20 inches high, 30 inches long on top, and 12 inches wide on the top, so that they are in the form of small pyramids, tapering inwardly from the bottom upwardly, and having a flat tie-plate (and rail) supporting-surface at their tops.

Such a form provides a very large base at the bottom of the side-beams, for engaging the earth or road ballast 4, Fig. 2; thereby minimizing the settling of the side-beams when subjected to the action of heavily-loaded trains.

The rails 3 rest upon metallic tie-plates 5, that are slightly smaller than the tie-plate surface 6 of said side-beams 1, and said plates are preferably made of steel that is at least one-half inch thick, in order to protect the concrete from possible injury by the rails.

Each of the steel plates 5 has two spike-holes 7, each preferably $2\frac{3}{4}$ x $1\frac{1}{4}$ inches, with the long sides of said holes or slots extending parallel with the rails, and the two slots being parallel, separated laterally about the width of the rail-flange, (or base) and located at about the center of the length of the plate.

The flanges of the rails are held in place by spikes or rail-holding members 8, which are made of steel or other suitable metal, of

ample size, say 1 inch thick, with a strong head at their upper ends, to engage the rail-flanges, and having a widened lower end in which is formed a tie-rod hole that is preferably 1½ inches in diameter.

Molded in the said side-beams 1 are vertical spike-seats 10, which extend downwardly from the top of said side-beams to a point about midway of the height of the latter, to permit said spikes to be passed downwardly in said seats to a position to be engaged by the tie-rod 11, which will be presently described in detail.

Each pair of the said side-beams is connected by a reinforced concrete cross-beam 12, the ends of which are detachably located in a beam-seat 14 that is formed in the inner side of the side-beams, at the time the latter are molded.

The tie-rod 11 passes loosely through a longitudinal tie-rod passage 15 that extends from end to end of said cross-beam 12; thence through one or more washers or track-gaging plates 16 at the ends of said cross-beam, and thence through tie-rod passages in the said side-beams 1, to the outer sides of the latter, where they are threaded and provided with clamping-nuts 17, so that when said nuts are tightened said side-beams will be clamped firmly in position upon the ends of said cross-beam, and the latter will be supported in said beam-seats 14 of their opposite side-beams, and thereby form a complete and durable rail-supporting section.

The said tie-rod 11 passes through the said tie-rod holes of said rail-holding members or spikes 8, and thereby holds the latter in position, with their heads engaging the rail-flanges.

One or more washers or perforated metal-plates 16 are used at each end of said cross-beam 12, as required to bring the rails to proper gage.

In making repairs, the nuts 17 of said tie-rod 11 may be removed, the tie-rod may be withdrawn in either direction, and the spikes released, or replaced, as required.

Said nuts 17 engage nut-seats 18 formed in the outer side-walls of said side-beams 1.

The said cross-beams 12 have flat undersides, but their upper sides are preferably rounded transversely, as shown, so that depending brake-rods or other parts of the passing cars or locomotives, upon striking same, will not catch and cause damage, but, on account of said rounded upper sides, said passing parts will glance off, and pass over said cross-beams in safety.

The operation and advantages of my invention will be entirely clear from the above description.

I claim:—

1. A flexible concrete railroad road-bed, composed of wide-based pyramidal side-beams of concrete; cross-beams detachably clamped in seats in opposite ones of said side-beams; rails mounted on said side-beams; steel plates on said side-beams between said rails and the tops of said side-beams; rail-holding members having heads which engage the flanges of said rails, and provided with perforated lower portions which extend downwardly and are removably located in spike-seats formed in said side-beams; and tie-rods passing through said cross-beams from end-to-end of same and extending through the perforations of said rail-holding members, and through said opposite side-beams, and adapted to firmly clamp said side-beams upon the ends of said cross-beams.

2. The combination with the parts named in the above claim 1, of gage-plates located between the ends of said cross-beams and said side-beams, in the beam-seats of the latter, to regulate the gage of the track-rails.

In testimony whereof, I have signed my name to this specification in presence of two subscribing witnesses.

EDWIN WILSON.

Witnesses:

EDNA E. CONRAD,
HENRY L. HIGDON.