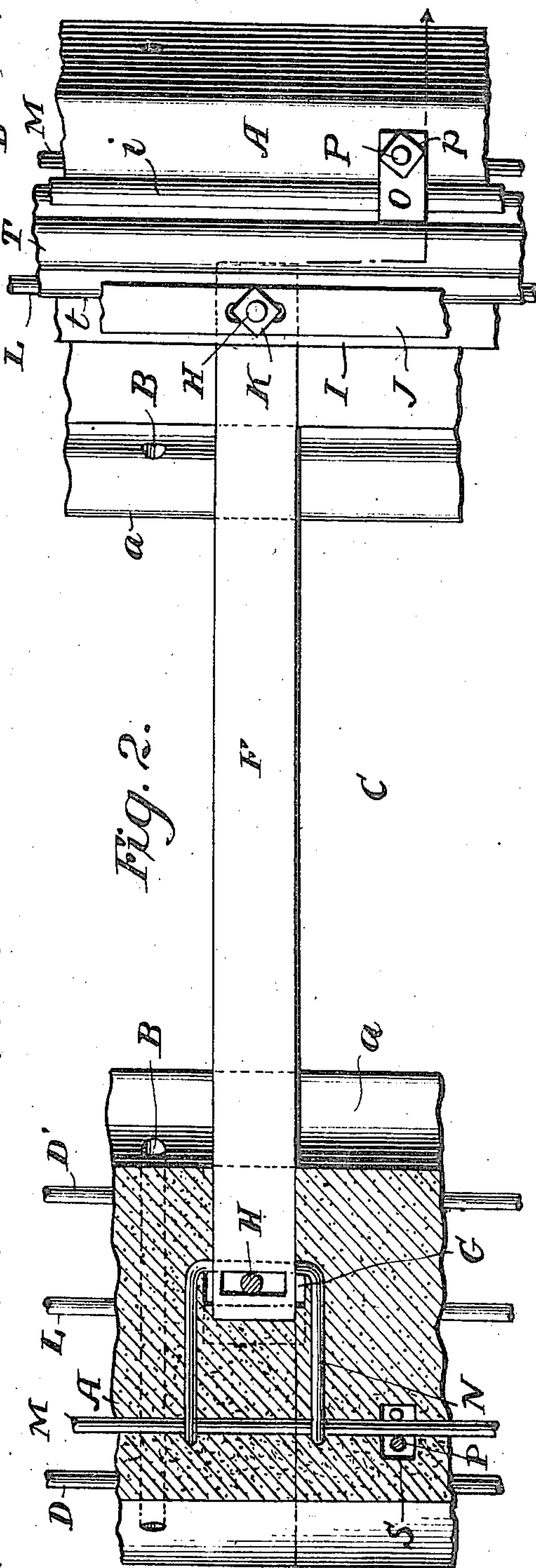


964,190.

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Witnesses

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UNITED STATES PATENT OFFICE.

JESSE E. SNELLING, OF NEWARK, OHIO.

RAILWAY ROAD-BED.

964,190.

Specification of Letters Patent.

Patented July 12, 1910.

Application filed March 28, 1910. Serial No. 552,022.

To all whom it may concern:

Be it known that I, JESSE E. SNELLING, a citizen of the United States, residing in Newark, in the county of Licking and State of Ohio, have invented certain new and useful Improvements in Railway Road-Beds, of which the following is a specification.

My invention relates to that class of railway road beds in which reinforced concrete is substituted for the ordinary wooden ties.

The objects of my invention are to so construct road beds of this class that they may be laid economically, may require but little and inexpensive repairs, will be strong and durable, and will enable trains to run with greater speed and so little jar as to thus lengthen the life of machinery, and render travel more safe and agreeable.

In carrying out my invention I provide two parallel rail supports, made of concrete, resting on suitable foundations below the ground line, and rising above this line where they are shaped to receive the rails. These concrete rail supports are tied together near their upper and lower portions at suitable distances apart by transversely arranged tie rods and the T rails rest on shoes which engage the flanges of the T rails and are firmly connected by detachable or removable bolts with longitudinally arranged rods running parallel with the T rails and embedded in the concrete. Gutters are formed in the rail supports which connect with outlet passages arranged suitable distances apart.

The details of construction will be hereinafter more fully described.

In the accompanying drawings:—Figure 1 shows a vertical transverse section of a road bed embodying my improvements. Fig. 2 is a view, partly in plan and partly in section, of the same.

The rail supports, A, are made of concrete, mixed, compounded and molded in any suitable way. They are preferably made wider at the bottom than at the top, their lower portions being sunk below the ground level where they may rest on foundations prepared in any suitable way. On their inner sides the rail supports are formed with inwardly extending flanges, *a*, providing gutters which extend the entire length of the track and connect with outlets or

transverse channels, B, which drain the gutters at suitable intervals. The space between the rail supports is filled in with concrete, gravel, broken stone, or other suitable material, as indicated at C. Rods D, D', are embedded in the lower portions of the rail supports and extend parallel with the track continuously from end to end thereof, and tie rods, E, engaging the outer longitudinal rods, D, serve to brace or tie together the lower portions of these supports, while the upper parts of the rail supports are connected by tie beams, F, the opposite ends of which are arranged in the upper portions of the rail supports, as clearly shown but are removable. The tie rods, E and F, may be arranged suitable distances apart, the frequency with which they are employed depending on the nature of the ground in particular localities.

The supports, A, are formed at frequent intervals with pockets, G, to receive bolts, H. These pockets are preferably shaped as shown, their upper ends being open to permit the insertion and withdrawal of the bolts.

The rails, T, rest on shoe rails, I, extending continuously the entire length of the track and formed with flanges, *i*, which engage the outer flanges of the T rails and these flanged portions of the shoe rails rest against shoulders *a'*, formed in the supports, A.

The outer flanges of the bases of the T rails are held firmly by the outer flanges *i*, and the inner flanges of the bases of the T rails are engaged by cap bars, J, which may extend the entire length of the T rails, or short lengths of cap bars or washers may be used. These cap bars, J, are properly recessed, as indicated at *j* to engage the inner flanges of the bases of the T rails.

The bolts H extend through the cap bars, J, and the shoe rails, I, and their threaded upper ends receive nuts, K. The lower hooked ends of the bolts engage longitudinal rods, L, extending parallel with the T rails and embedded in the concrete. The shoe rails, I, the cap bars, J, and the ends of the tie beams, F, are slotted, as shown, to permit the hooked ends of the bolts, H, to pass through them.

In the upper portions of the rail supports

are embedded rods, M, which are arranged parallel with the T rails and they are engaged by looped braces, N, also embedded in the concrete, their inner ends extending
5 across the pockets, G, and through them extend the bolts, H. By this construction the upper portions of the rail supports are braced and prevented from spreading.

Pockets, S, are formed in the concrete rail
10 supports at suitable distances apart and these are bridged by rods, M. Over these pockets are arranged clamping blocks, O, which extend over the outer flanges of the shoe rails and rest upon the bottom flanges
15 of the T rails. Through these clamping blocks extend bolts, P, formed with hooks on their lower ends engaging the rods, M, and nuts, p, are employed to hold the bolts in place. In this way the T rails are firmly
20 held against movement in any direction.

This road bed can be economically made and when once constructed will be strong and durable. The various rods D, D', L and M, may be embedded in the concrete during
25 the process of molding the same and the ends of the beams, F, and the braces, N, can be similarly laid.

The shoe rails, I, are of course placed in position before the T rails are laid and then
30 the bolts, H, are inserted and made to engage the rods, L, and to pass through the braces, N, the shoe rails, I, and the cap bars, J, and finally the locking nuts, K, are screwed home. The clamping blocks O and
35 bolts P are next applied.

Whenever necessary, by merely unscrewing the nuts and withdrawing the bolts, H, and P the cap bars, J, blocks O, T rails, T, and the shoe rails, I, may be withdrawn and
40 repaired or replaced.

It will thus be seen that a road bed such as herein shown and described, may be economically constructed, will require but little repair, when repair is necessary it can be
45 easily done, and a firm and solid construction is provided which will enable trains to run at high speed, smoothly, without jar to the machinery of the train, and render travel safe and agreeable.

50 I claim as my invention:

1. A railway road bed, comprising reinforced parallel concrete rail supports formed with vertical pockets, means for
55 tying together the lower portions of the supports, means for bracing and tying together the upper portions of the supports, shoe rails resting on the supports and engaging the T rails, vertically arranged bolts extending into the pockets and connecting with the
60 shoe rails, and means in the pockets for holding the bolts in place.

2. A railway road bed, comprising parallel concrete rail supports formed with vertical pockets, transversely arranged tie rods
65 connecting the lower portions of the rail

supports, transversely arranged tie beams connecting the upper portions of the rail supports, shoe rails resting on the top of the rail supports, looped braces embedded
70 in the concrete and extending across the pockets, vertically arranged removable bolts extending through the shoe rails, the tie beams and the braces, and longitudinally arranged rods bridging the pockets engaged by said bolts.

3. A railway road bed, comprising parallel concrete rail supports formed with vertical pockets and with shoulders on their upper portions, transversely arranged tie
80 beams arranged in the concrete and extending across the upper ends of the pockets, flanged shoe rails resting against the shoulders of the rail supports, vertically arranged bolts in the pockets extending through the shoe rails and the tie beams, and longitudinal
85 rods embedded in the rail supports bridging the pockets and engaged by the bolts.

4. A railway road bed, comprising parallel concrete supports formed with pockets and with shoulders on their upper surfaces,
90 tie beams connecting the rail supports embedded in the concrete and extending across the upper portions of the pockets, shoe rails supported on the concrete having flanged outer portions engaging the shoulders of
95 the rail supports, T rails engaged by said flanges, cap bars resting on the shoe rails and engaging the T rails, bolts extending through the tie beams, shoe rails and cap bars and into the pockets, and longitudinally
100 arranged rods embedded in the concrete bridging the pockets and engaged by the bolts.

5. A railway road bed, comprising parallel concrete supports formed with vertical
105 pockets and with inwardly extending flanges providing gutters and with outlet passages connected with the gutters, longitudinally arranged rods embedded in the lower portions of the concrete, trans-
110 versely arranged tie rods connected therewith, longitudinally arranged rods embedded in the upper portions of the rail supports, looped braces connected therewith and which extend around the upper
115 portions of the pockets, tie beams connecting the opposite rail supports embedded in the upper portions thereof and extending across the upper portions of the pockets, shoe rails resting on the rail supports and
120 having flanged outer portions engaging the T rails, vertically arranged bolts in the pockets extending through the looped braces, the tie beams and the shoe rails, and longitudinally arranged rods in the lower portions of
125 the rail supports, which bridge the pockets and which are engaged by the bolts.

6. A railway road bed, comprising parallel concrete rail supports each formed
130 with two rows of vertical pockets, shoe rails

resting on the supports and engaging the T
rails, vertically arranged bolts extending
into the pockets and connected with the
inner sides of the shoe rails, means in the
5 pockets for holding the bolts in place, clamp-
ing blocks engaging the outer portions of
the shoe rails, vertically arranged bolts en-
gaging these clamping blocks and extending

into pockets in the rail supports, and means
for holding said bolts in place.

In testimony whereof, I have hereunto
subscribed my name.

JESSE E. SNELLING.

Witnesses:

MAE F. CHARLES,
E. CARY NORRIS.