





# UNITED STATES PATENT OFFICE.

LAWRENCE HEILAND, OF NEW BAVARIA, OHIO.

## RAILROAD-TRACK CONSTRUCTION.

No. 917,600.

Specification of Letters Patent.

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*To all whom it may concern:*

Be it known that I, LAWRENCE HEILAND, a citizen of the United States, residing at New Bavaria, in the county of Henry and State of Ohio, have invented new and useful Improvements in Railroad-Track Construction, of which the following is a specification.

This invention relates to railroad track construction and its primary object is to provide a track in which the usual cross ties are dispensed with.

Another object of the invention is the provision of a railroad track which is of comparatively simple and inexpensive construction, so designed as to have comparatively long life, so that reconstruction is reduced to a minimum and at the same time insuring easy running of the trains over the road.

With these objects in view and others, as will appear as the description proceeds, the invention comprises the various novel features of construction and arrangement of parts which will be more fully described hereinafter and set forth with particularity in the claims appended hereto.

In the accompanying drawing, which illustrates one embodiment of the invention, Figure 1 is a transverse section of the track. Fig. 2 is a plan view thereof. Fig. 3 is a side elevation of the track.

Similar reference characters are employed to designate corresponding parts throughout the views.

Referring to the drawing, 1 designates a plurality of concrete or other blocks of rectangular form which are laid in a suitable ballast side by side in two rows spaced apart at such a distance as to be located centrally under the rails of the track and these blocks have ribbed or grooved bottom surfaces so as to increase the hold on the bed and thus prevent lateral displacement of the block. The top surfaces of the blocks are formed with recesses 1<sup>a</sup> that constitute a channel extending longitudinally of the block foundation of the track and in these channels are set beams 3 of suitable dimension which are located under the rails 6 of the track. In order to prevent the rails from cutting into the beams, short metal cross pieces or plates 4 are disposed on the top surfaces of the beam at suitable distances apart and passing through these metal supporting plates and engaging in the beams 3 are screws 5 or equivalent fastenings that have annular heads for engaging over the bases of the rails

6 to thereby firmly but removably hold the rails in place. The ballast of the roadbed is tamped firmly along the two rows of blocks 1 and these blocks are capable of relative vertical movement as the train passes thereover since the beams 3 will yield so that the necessary resiliency or smooth running of the trains over the track is obtained.

For preventing spreading of the rails or block foundations, a plurality of metal cross bars 7 are employed that are of such length as to extend from one beam 3 to the other and the ends are inserted between the beams and rails to take the place of the supporting plates 4 at suitably spaced intervals, and these cross bars are secured to the beams 3 and rails 6 by screw fastenings 5 which pass through the ends of the cross bars 7 and screw into the beams. Under the cross bars 7 are brackets 8 arranged with their inner ends overlapping under the centers of the cross bars and are secured to the latter by bolts 9, and the opposite ends of the brackets are formed into L-shaped feet which bear against the inner surfaces of the blocks 1 directly under the cross bars and engage under such blocks so as to prevent the cross bars from buckling upwardly or downwardly. The lower ends of the brackets are prevented from shifting by being embedded in the ballast of the roadbed. The metal parts of the track may be coated with tar or other preservative for preventing rusting and the blocks 1 are practically indestructible so that the only parts of the track that would require renewal from time to time are the beams 3 which, however, will last for a considerable period.

Having thus described the invention, what I claim is:—

1. A railroad track comprising a bed, foundations set into the bed and composed of blocks arranged side by side and in contact with each other and having recesses in their upper faces, the recesses of adjacent blocks being arranged in alinement to form a transverse channel extending longitudinally of each foundation, a beam fitted in each channel, rails secured to the beams, members extending from one beam to another and connected therewith for holding the rails in fixed position, said members preventing the blocks of the foundations from lateral displacement.

2. The combination of a bed, foundations set into the bed and arranged longitudinally



thereof in spaced relation, beams disposed longitudinally of and secured on top of the foundations against lateral displacement, rails disposed over and extending longitudinally of the beams, means for securing the rails in place, cross-pieces extending from one beam to the other and rigidly secured thereto, and bracing members secured to the cross-pieces adjacent the middle thereof and extending downwardly into the bed and engaging the foundations.

3. The combination of a bed, a plurality of concrete blocks arranged side by side in contact with one another and having recessed tops, said blocks being embedded in the ballast of the bed in parallel rows with their recesses forming continuous channels, beams set into the channels, metal cross pieces on the top faces of the beams, rails resting on the metal pieces, and fastenings passing through the metal pieces and beams and provided with means for engaging the bases of the rails for securing the latter in place.

4. The combination of a bed, a plurality of concrete blocks having ribbed bottoms and recessed tops, said blocks being embedded in the ballast of the bed in parallel rows with their recesses forming channels, beams set into the channels, metal cross pieces on the top faces of the beams, rails resting on the metal pieces, and fastenings passing through the metal pieces, beams provided with means for engaging the bases of the rails for secur-

ing the latter in place, and cross bars extending from one beam to the other for preventing spreading of the rails.

5. The combination of a bed, a plurality of concrete blocks having grooved bottoms and recessed tops, said blocks being embedded in the ballast of the bed in parallel rows with their recesses forming channels, beams set into the channels, metal cross pieces on the top faces of the beams, rails resting on the metal pieces, and fastenings passing through the metal pieces, beams provided with means for engaging the bases of the rails for securing the latter in place, cross bars extending from one beam to the other for preventing spreading of the rails, and brackets secured to the cross bars and embedded in the ballast of the bed with their extremities engaging the said blocks.

6. The combination of a bed, rail foundations embedded therein, means for securing rails thereto, cross bars between the rails for spreading of the latter, and brackets secured to the middles of the bars and having L-shaped outer extremities engaging the inner faces and bottoms of the foundations and embedded in the ballast of the bed.

In testimony whereof I affix my signature in presence of two witnesses.

LAWRENCE HEILAND.

Witnesses:

G. THORNE,  
J. B. MESS.