

No. 621,657.

Patented Mar. 21, 1899.

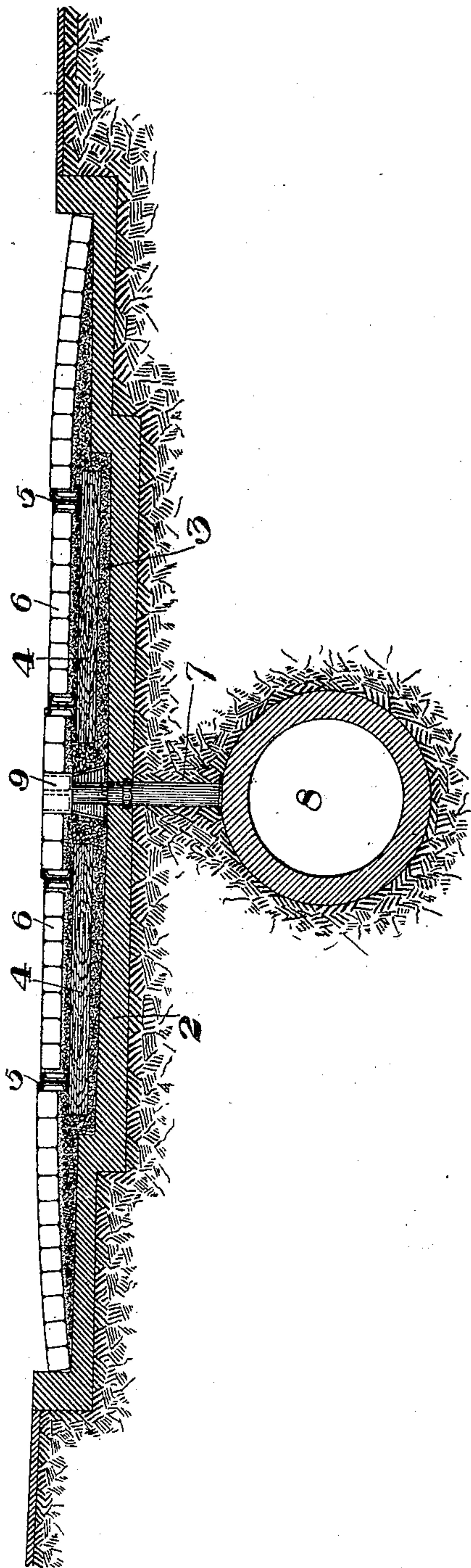
G. F. GREENWOOD.
ROAD BED FOR RAILWAYS.

(Application filed Nov. 6, 1898.)

(No Model.)

2 Sheets—Sheet 1.

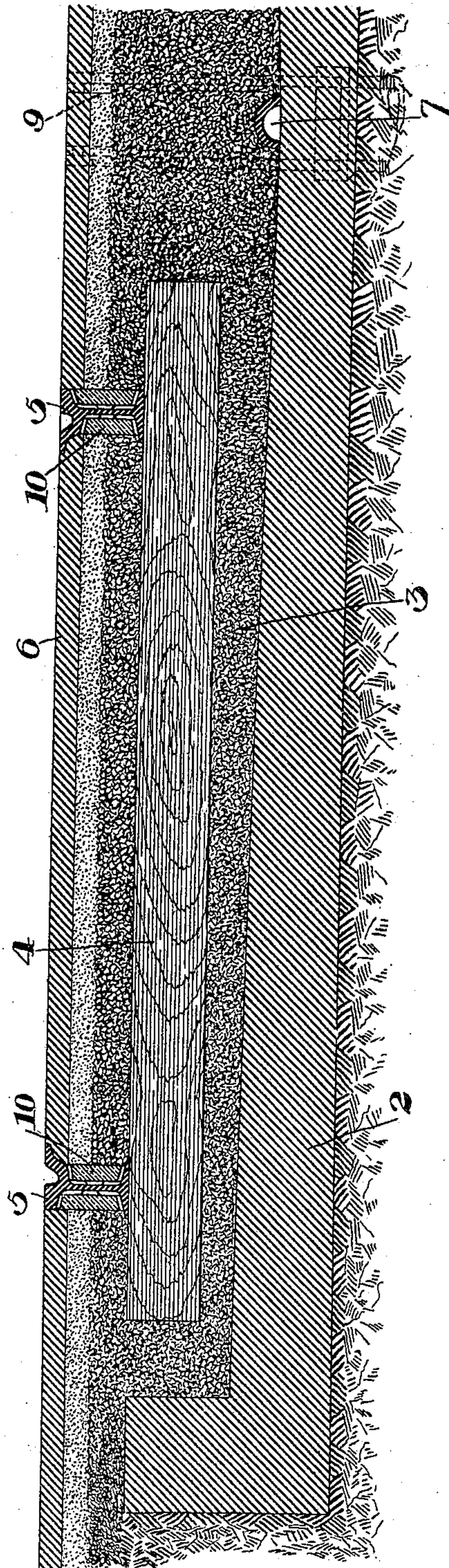
Fig. 1.



WITNESSES

St. M. Corwin
Warren W. Swartz

Fig. 2.



INVENTOR

G. F. Greenwood
by *Danewell & Danewell*
his Attorneys.

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2 Sheets—Sheet 2.

Fig. 3.

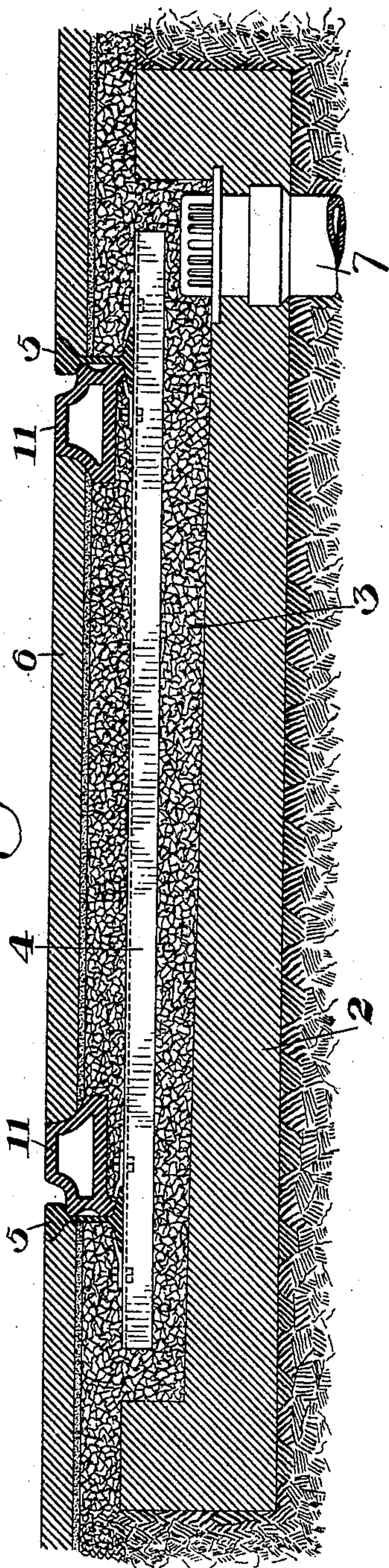
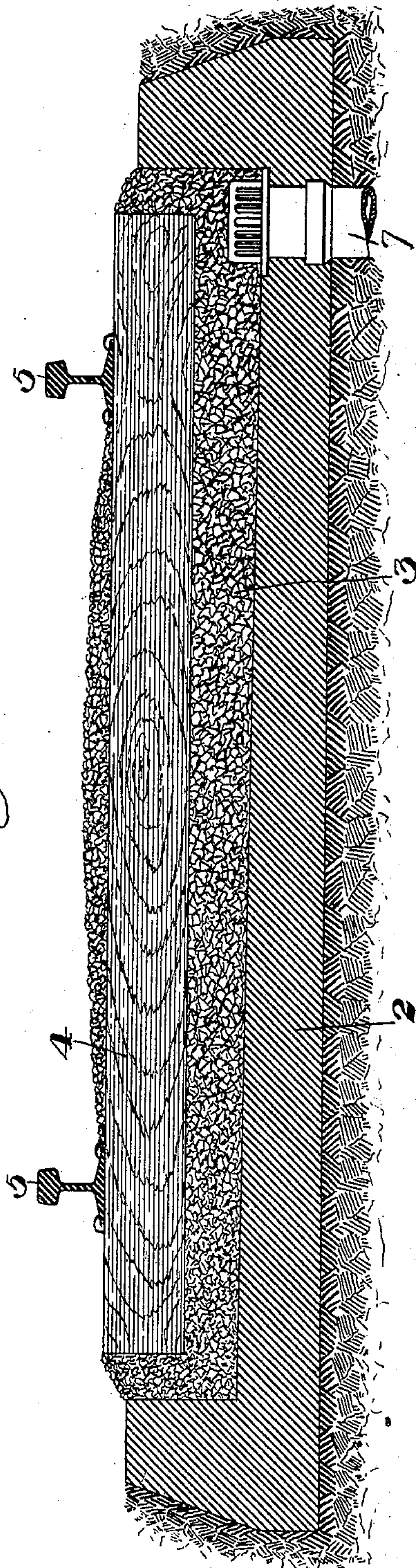


Fig. 4.



WITNESSES

W. H. McCorum
Warren W. Swartz

INVENTOR

G. F. Greenwood
by Baxendell & Baxendell
his Attorneys.

UNITED STATES PATENT OFFICE.

GUY F. GREENWOOD, OF PITTSBURG, PENNSYLVANIA.

ROAD-BED FOR RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 621,657, dated March 21, 1899.

Application filed November 5, 1898. Serial No. 695,535. (No model.)

To all whom it may concern:

Be it known that I, GUY F. GREENWOOD, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Road-Beds for Railways, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 shows in vertical cross-section a road-bed for electric railways embodying my invention applied to a stone-block pavement. Fig. 2 is a like view showing the same applied to an asphalt pavement. Fig. 3 is a like view showing it applied to a macadam pavement, and Fig. 4 is a cross-sectional view showing the invention applied to the road-bed of a steam-railway.

My invention consists in a road-bed for railways comprising a trough made of concrete adapted to contain within it the ballast and ties on which the rails are set. Such trough not only retains the ballast and prevents it from being displaced laterally or vertically, and thus causing the rails and ties to sink, but it maintains the rails level and in alinement by bridging over soft spots that occur in the earth or sub roadway and distributes over a large area the weight that comes upon the rails. It also enables the road-bed to be kept dry and water to be drawn from around the ties. It provides also a very durable structure and enables the rails and ties to be renewed at a minimum expense and without waste of ballast.

In Fig. 1, 2 represents the trough, which is made of concrete and extends along the railway, inclosing within it the ballast 3 and the ties 4.

5 5 are the rails, and 6 is the pavement.

For the purpose of drainage I may at intervals provide pipes 7, connecting with a sewer 8, toward which the bottom of the trough is sloped, and I show in Fig. 1 a man-hole-box 9, by which access is afforded to the

pipe. In this way water can be drained off from the ballast and the interior of the trough kept dry.

In Fig. 1 I show the trough made of step form, the deeper middle portion being adapted to contain the ties and the outer portion to contain the pavement.

In Fig. 2 I show a trough made without such stepped construction and adapted merely to hold the ballast around the ties. The drain 7 of Fig. 2 is also different in form from that of Fig. 1, and I show filler-pieces 10, of terra-cotta or other suitable material, applied to the sides of the rails to exclude the ballast. The pavement in Fig. 2 is an asphalt pavement.

In Fig. 3 I show my invention adapted for a macadam pavement, and I illustrate the drain-pipe 7 as being situated at the side of the trough, with the bottom of the trough sloping toward it. 11 11 are filler blocks or pieces at the inner sides of the rails.

In Fig. 4 I show my improvement applied to the road-bed of a steam-railway, the ties in this case being at the surface of the ground.

Other modifications than those illustrated above will occur within the scope of my invention to those skilled in the art, since

What I claim is—

1. A road-bed for railways, comprising a trough extending along the roadway and containing the ballast, and ties or rail-supports set in the ballast within said trough, substantially as described.

2. A road-bed for railways, comprising a concrete trough extending along the roadway and containing the ballast, and ties or rail-supports set in the ballast within and between the sides of said trough, substantially as described.

In testimony whereof I have hereunto set my hand.

GUY F. GREENWOOD.

Witnesses:

H. M. CORWIN,

G. B. BLEMMING.