

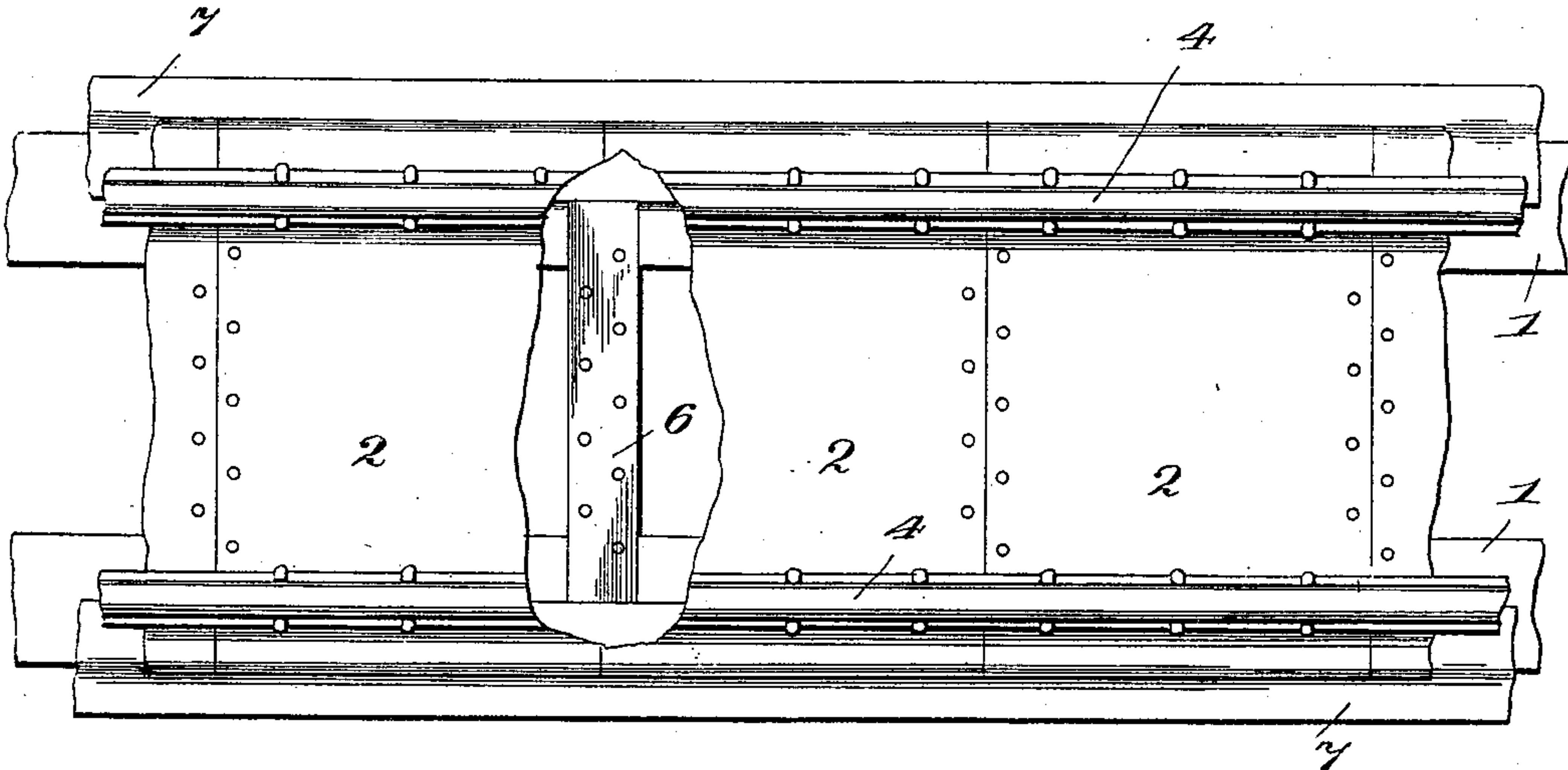
(No Model.)

E. SMITH.  
RAILWAY BED AND TIE.

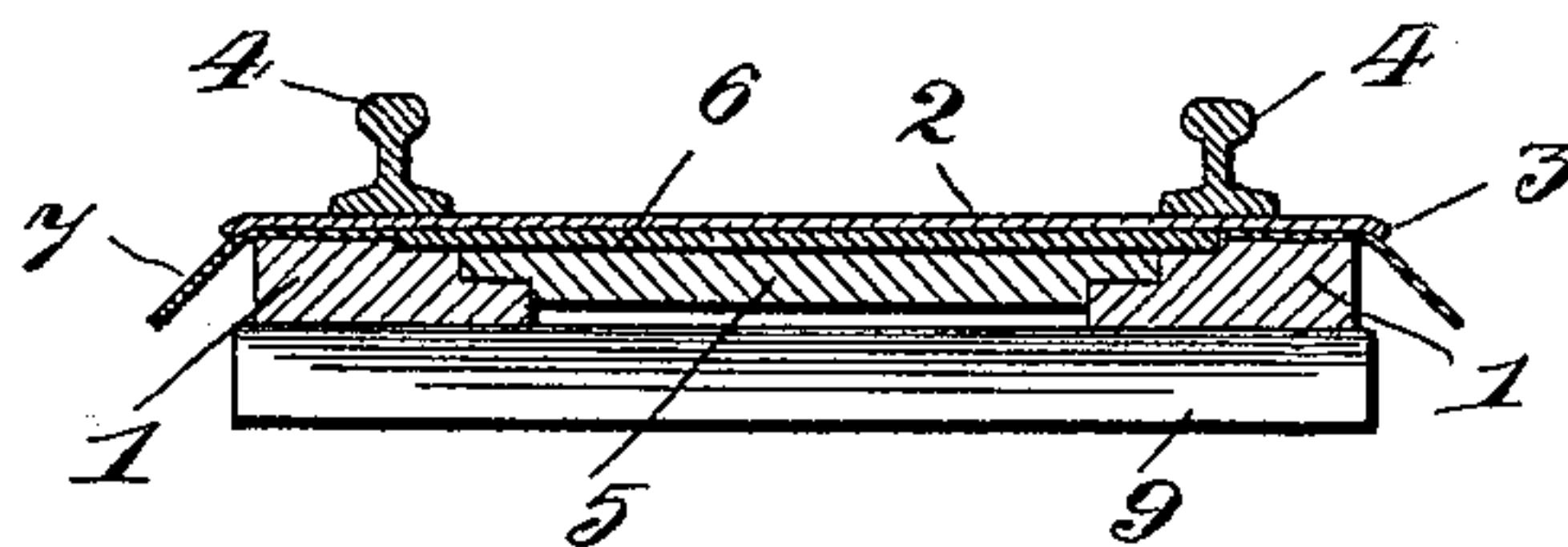
No. 601,799.

Patented Apr. 5, 1898.

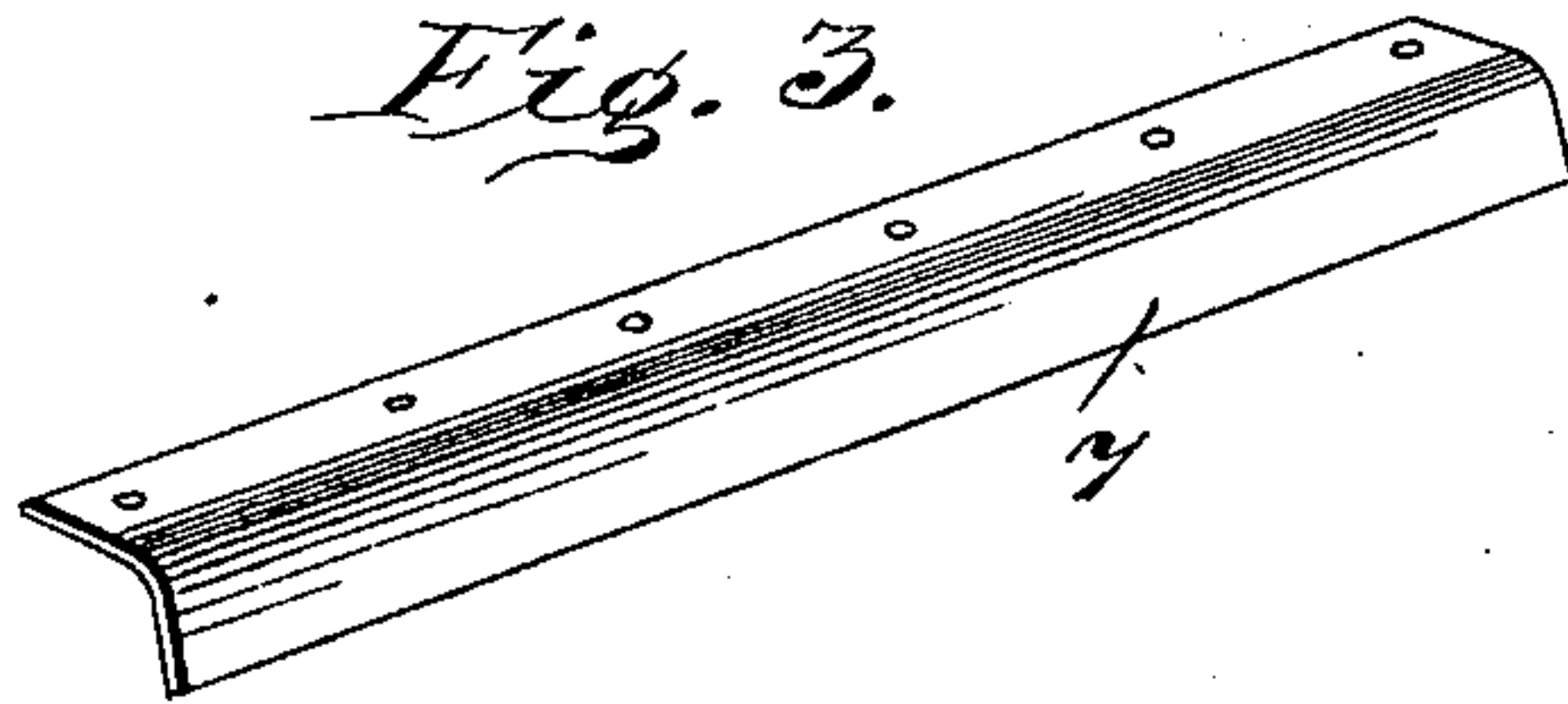
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses  
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# UNITED STATES PATENT OFFICE.

ELI SMITH, OF DRESSOR, ILLINOIS.

## RAILWAY BED AND TIE.

SPECIFICATION forming part of Letters Patent No. 601,799, dated April 5, 1898.

Application filed September 20, 1897. Serial No. 652,378. (No model.)

*To all whom it may concern:*

Be it known that I, ELI SMITH, a citizen of the United States, residing at Dressor, in the county of Fayette and State of Illinois, have  
5 invented certain new and useful Improvements in Railway Beds and Ties; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as  
10 it appertains to make and use the same.

My invention relates to new and useful improvements in railway beds and ties; and it consists, essentially, in forming the road-bed of stringers arranged end to end and parallel  
15 with each other and suitably bracing them and covering the space between said stringers with metallic plates, thus providing means whereby the ties are kept thoroughly dry and prevented from decaying, and, further, my in-  
20 vention consists in arranging strips, preferably of metal, upon each side of the road-bed, whereby water will be carried from the road-bed and into the usual ditches provided for its reception.

25 One of the objects of the invention is to provide a tie and bed of the character mentioned that can be readily constructed and which will be simple in construction, durable, comparatively cheap, and which can be read-  
30 ily repaired.

Further objects and advantages of the invention will become apparent in the course of the following description, and the points of novelty will be particularly set forth in the  
35 claim.

I am enabled to accomplish the objects of my invention by the simple means illustrated in the accompanying drawings, in which—

40 Figure 1 is a top plan view of a road-bed constructed in accordance with my invention. Fig. 2 is a transverse section of the same, taken at the point where the stringers are braced. Fig. 3 is a detail perspective view of one of the metallic strips provided for the  
45 purpose of draining the water from the road-bed.

Referring to the drawings, the numeral 1 indicates the stringers, which in the present instance are formed of wooden beams of such

width and thickness as to insure the neces- 50  
sary strength and of convenient length to be handled. These beams in practice are arranged end to end and parallel with each other and properly spaced apart.

Extending entirely across the road-bed I 55  
provide a series of metallic plates 2, with their edges slightly turned down, as indicated by the numeral 3, to more readily carry off the water. Said plates are perforated in straight  
60 parallel lines above the central portions of the stringers for the passage of the usual spikes or other fastening means by which the rails  
4 and said plates are secured to the stringers.

The numeral 5 indicates the braces, formed, preferably, of metal, spanning the space be- 65  
tween the stringers and preferably placed about midway of the length of said stringers, said braces being firmly secured to the stringers at either end and immediately below the  
70 joint of the plates. The numeral 6 indicates a metallic plate interposed between the said braces and the ends of the plates 2 where they come together, and said plates are firmly se-  
75 cured to the braces by bolts or spikes passing through the plates 2 near their edges and through the metallic plates 6 and into said  
braces, thus forming perfectly water-tight joints.

To insure the more perfect and even mount- 80  
ing of the rails upon the ties and stringers, the plates 6, where they extend across the upper faces of the stringers, are depressed, so that the upper faces of said plates will be flush with the upper faces of the stringers, thus  
85 providing a level bearing for the plates 2 and the rails mounted thereon, or said plates may be of very thin metal and rest upon the tops of the braces.

Arranged on either side of the road-bed and secured to the upper outer edges of the string- 90  
ers I provide metallic strips 7, bent at, say, about an angle of forty-five degrees with relation to the stringers, as clearly illustrated in Fig. 2. The strips 7 are perforated by the pas-  
95 sage of spikes or bolts, which pass through the plates 2 and serve to secure said plates and strips and also the rails to the ties. The said strips are so thin that they do not interfere



with the even mounting of the rails, and if found desirable said strips may extend entirely across the faces of the stringers.

5 Beneath the stringers, at the ends thereof, I provide transverse beams 9, upon which said stringers are adapted to rest and are prevented from sinking.

10 In practice it will be found that the stringers and the spaces between the same will be completely protected from water, as the water passing from the plates 2 will be carried to the sides of the road-bed and there emptied into ditches provided for the purpose.

15 It is obvious that many changes in the details of construction may be made within the scope of the invention without departing from the spirit thereof, and I therefore do not desire to be understood as limiting myself to the precise construction shown in the drawings.

20 It will be understood that in practice the space between the stringers and the spaces between the outer edges of the stringers and the metallic strips will be filled in with crushed rock or other material used in the construction of road-beds.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A road-bed and ties comprising a series of stringers arranged end to end and parallel 30 with each other, metallic plates connecting the said stringers and extending entirely across the upper faces thereof, said plates being formed with perforations for the passage of spikes or bolts, whereby the plates and the 35 track-rails are secured to the stringers, metallic plates secured to the upper outer edges of the stringers for the purpose set forth, and metallic strips secured to the faces of the braces between the stringers and extending 40 to the metallic side strips, substantially as and for the purpose set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

ELI SMITH.

Witnesses:

F. DIDWERY,  
PLEN NELRUS.