(No Model.)

J. B. SUTHERLAND.

RAILWAY.

No. 382,393. Patented May 8, 1888.

Fig. 1

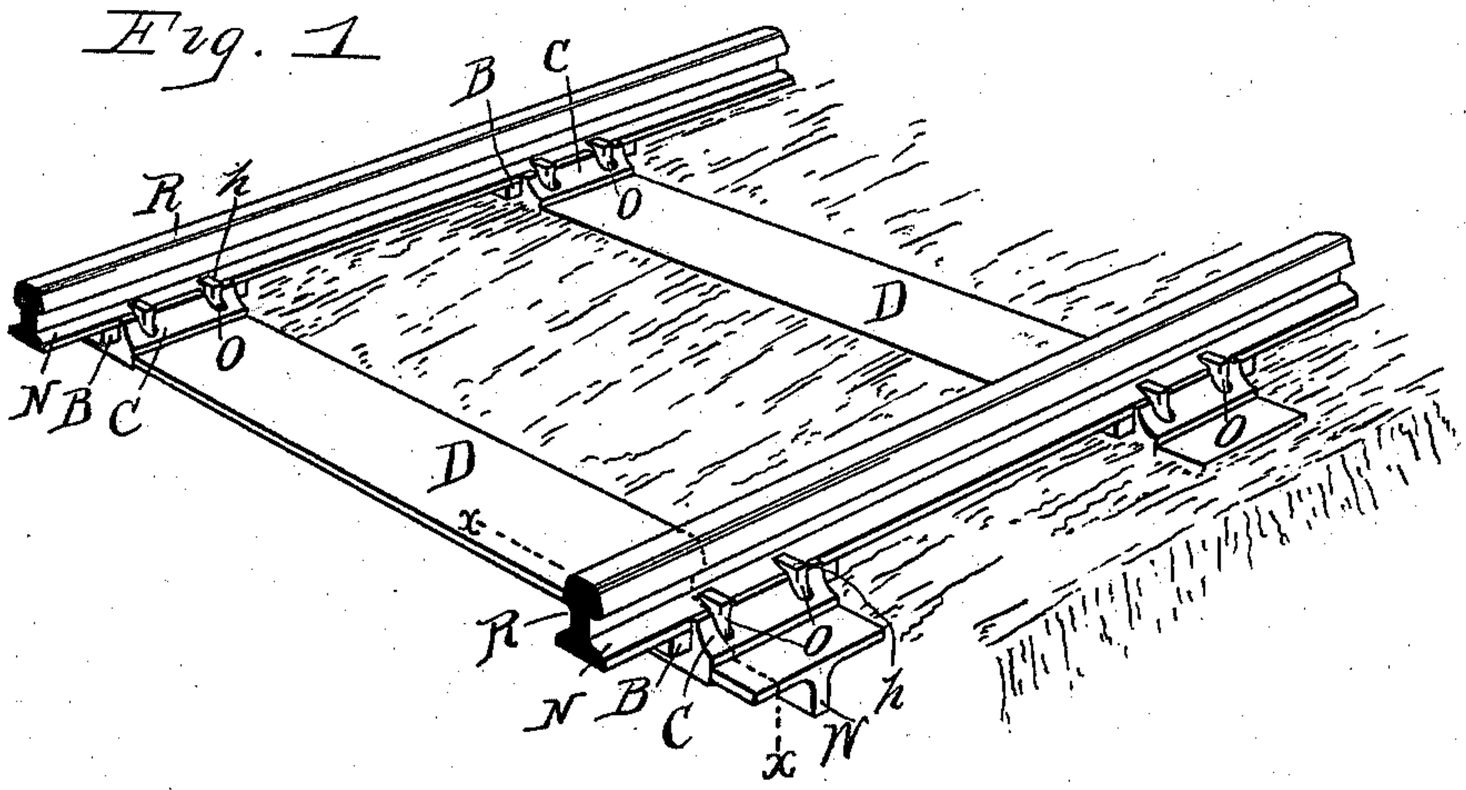


Fig. 2.

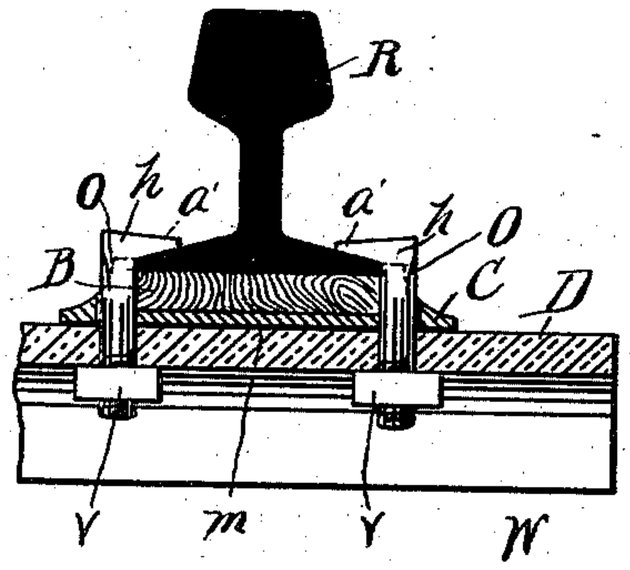


Fig. 3.

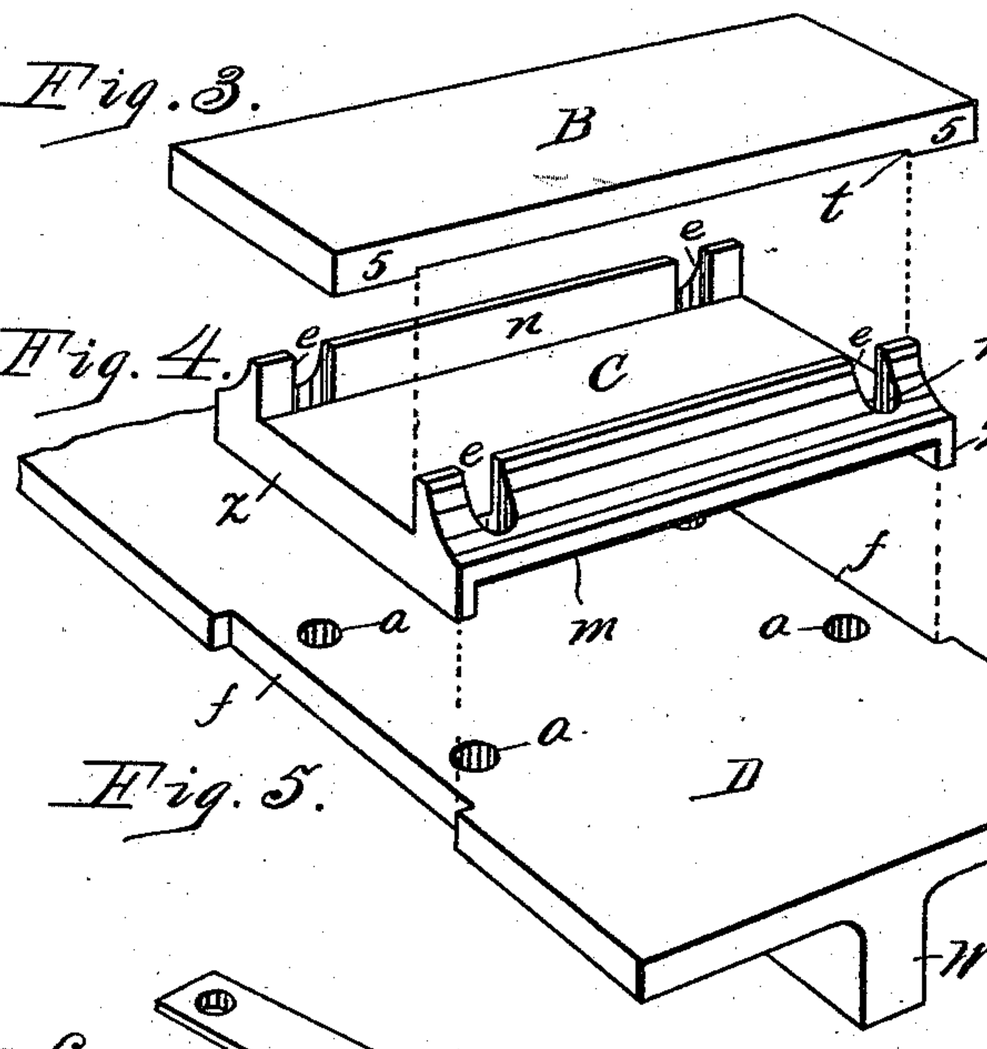
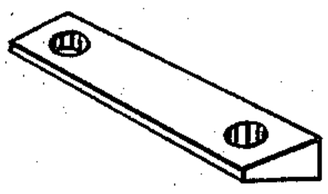


Fig. 4.

Fig. 5.

Fig. 6.



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JOHN B. SUTHERLAND, OF DETROIT, MICHIGAN.

RAILWAY.

SPECIFICATION forming part of Letters Patent No. 382,393, dated May 8, 1888.

Application filed July 15, 1887. Serial No. 244,426. (No model.)

To all whom it may concern:

Be it known that I, JOHN B. SUTHERLAND, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Railways; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention in railways relates especially to the attachment of the rails to metallic ties or cross-girts, the object being to construct a durable track that will not be too expensive, and one in which the rails will be supported on flexible bearings located between the metal tie and the metal chair, also between said chair and rail, as will be hereinafter set forth. The interposed flexible bearings or supports are to be of wood, paper, or like material, whereby the rigid union of parts is overcome, and the sound of the rolling wheels over the rails is broken or deadened. The flexible bearings prevent the pounding together of the metal parts by the passing of the wheels of a train over the rails, as is now common with railways having metal ties.

The essential features of my invention will be indicated particularly in the claims.

In the accompanying drawings, forming a part of the specification, Figure 1 is a perspective of a railway containing my invention. Fig. 2 is an enlarged section taken on the dotted line *x x* of Fig. 1. Figs. 3, 4, 5, and 6 are enlarged details.

D represents the metal tie, which is T-shaped in cross-section.

W is the web which enters the soil.

f represents recesses formed in the edges of the face of the tie. A series of bolt-holes, *a*, pass through the face of the tie. The object of the recesses and holes will be hereinafter explained.

C represents a metal chair having risers or flanges *n* along the edges of its upper face, and depending flanges Z at each end. The chair crosses the tie D, having between it and the tie a thin strip or sheet of tarred or like paper, *m*, as shown by black lines in Figs. 2 and 4. The flanges Z of the chair fill the channels *f* of the tie, whereby the chair is prevented from moving on said tie, and the holes *e* of the chair are caused to register with the holes *a* of the tie.

B is a strip of wood, paper, or like flexible, elastic, or ductile substance, the under face of which is slightly cut out, as shown at *t* in Fig. 3. Said cut-out portion meets the upper face of the chair. The engaging end portions, 5, prevent the flexible agent B from working endwise on said chair.

The flanges *n* of the chair project slightly above the upper face of the flexible support B, and meet the edges of the base N of the rails R, as clearly shown in Fig. 1, thus forming a support, preventing the spreading apart of the rails.

The rail, chair, and interposed parts are firmly bound to the rail by means of the hook-bolts O, which pass through the holes *e* of the chair and holes *a* of the tie, their heads *h* engaging with the base N of the rails, the parts being firmly held by means of the nuts *v* on the under face of the tie; or the bolts O may be inverted and the nuts *v* placed on the upper ends over the base of the rail, and, if desired, a side-hill plate, as shown in Fig. 6, may be placed on the base N of the rail, with the nut *v* on the top of said plate.

It will be observed from the foregoing construction that the flexible agent B overcomes the rigid coupling of the rails to the tie, that its yielding allows the proper tightening of the bolts O, and that the sound of the passing wheels will be largely deadened.

To preserve the bearing B when employing wood or paper, it should be dipped in or coated with tar or like curative agent.

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

1. In combination with the metal tie, the metal chair having depending flanges Z and upright flanges *n*, the bolt-holes in said chair

registering with the holes of the tie, the rail, and the flexible agent located between said rail and the chair, as and for the purposes specified.

2. In combination with the metal tie having the recesses *f* and holes *a*, the metal chair having the flanges *Z* at the ends, the side flanges, *n*, the holes *e* registering with the holes of the tie, the rail, the flexible strip B, and bolts binding said parts together, as and for the purposes set forth.

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

JOHN B. SUTHERLAND.

Witnesses:

E. F. DEWEY,

J. S. DEWEY.