

(No Model.)

D. KAUFMAN.  
METALLIC RAILWAY TRACK.

No. 346,998.

Patented Aug. 10, 1886.

Fig. 1.

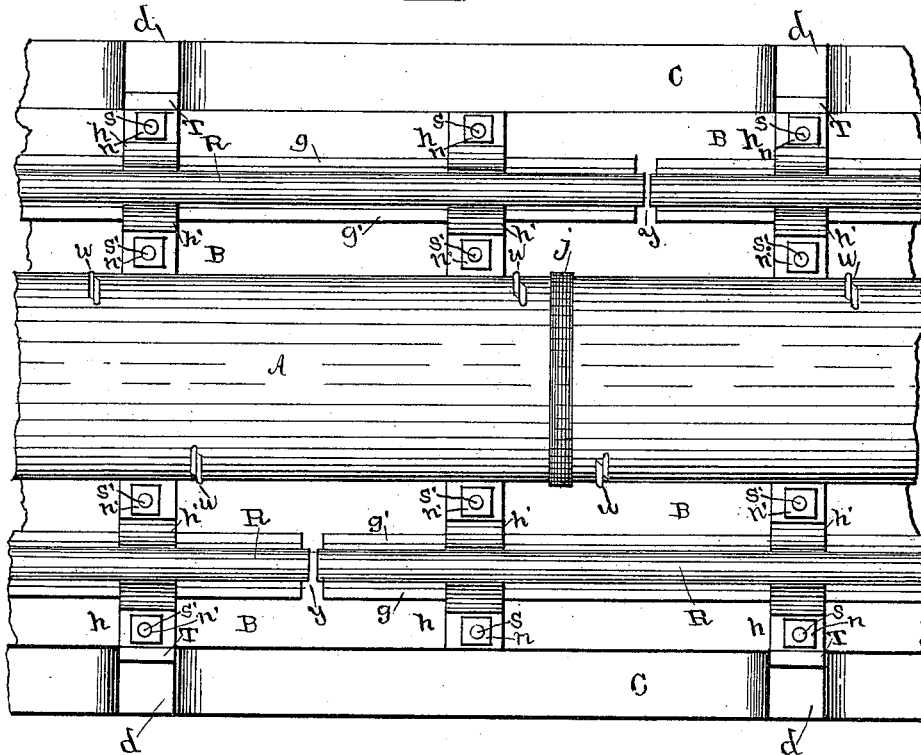
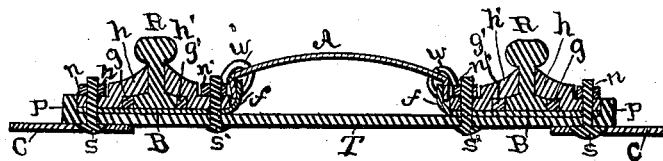


Fig. 2.



Witnesses  
*John C. Jenkins*  
*W. B. Chappin*

Daniel Kaufman  
Inventor

*Amble*  
Attorney

# UNITED STATES PATENT OFFICE.

DANIEL KAUFMAN, OF BOILING SPRINGS, PENNSYLVANIA.

## METALLIC RAILWAY-TRACK.

SPECIFICATION forming part of Letters Patent No. 346,998, dated August 10, 1886.

Application filed January 11, 1886. Serial No. 188,254. (No model.)

*To all whom it may concern:*

Be it known that I, DANIEL KAUFMAN, a citizen of the United States of America, residing at Boiling Springs, in the county of Cumberland and State of Pennsylvania, have invented certain new and useful Improvements in Metallic Railway-Tracks, of which the following is a specification, reference being had therein to the accompanying drawings.

Figure 1 is a plan view of my improved metallic railway-track and road-bed. Fig. 2 is a cross-section of the same.

The same letters refer to like parts in each of the figures.

My invention has reference to an improvement in the construction of railway-tracks and road-beds and the preservation of the latter from the action of the elements and growth of vegetation between and around the cross-ties, and by keeping the road-bed dry rendering it less likely to freeze and thaw, thereby securing greater safety to passing trains and uniform elasticity, and also greater durability. I also dispense with the ordinary method of ballasting and supply a better ballast than stone or any material now in use. The manner in which I attain these desirable conditions is as follows:

In Fig. 1, A represents a metallic covering over the center portion of the track, extending between the metallic longitudinal sills B and covering the intervening space. The metallic longitudinal sills B have ribs *g* and *g'* upon their upper surface at equal distance from the center of the sill and far enough apart to snugly admit the bottom of the rail R between them. On the inner edge of the sill there is a flange, *f*, suitably turned up to form a rest for and support of the outer edges of the metallic covering A, which are turned down over the flanges *f* and held rigidly in place by annealed wire fastenings *w*. Upon the outer edge of the sill B there is riveted a longitudinal metallic outer strip, C, of lighter weight than the sill and extending the entire length thereof, in such position that the outer edge of the rib *g* will fall above the inner edge of the metallic strip C. This strip should extend outward beyond the sill B far enough to assist in holding the track in place, and to form a base adapted in width to the condition of

the ground upon which the road is built. The metallic covering A is laid in sections with a movable water-tight joint, *j*. At convenient distances there is placed a metallic cross-tie, T, as shown in the cross-section, Fig. 2, having a shoulder, *p*, at each end, against which the outer edge of the sill B snugly rests. The rail R is held in place by the ribs *g* and *g'*, the cleats *h* and *h'*, bolts *s* and *s'*, and nuts *n* and *n'*, as shown in cross-section, Fig. 2, the outer strip, C, the cross-tie T, the sill B, and cleat *h* being held in place by the bolt *s* and nut *n* on the outer side of the rails, while the bolt *s'* and nut *n'* rigidly fasten together the cleat *h'*, the sill B, and cross-tie T on the inner side of the rail, the two cleats *h* and *h'*, with the ribs *g* and *g'*, rigidly grasping and holding the rail, the rails, sills, cross ties, covering, and outer strip being thus securely fastened together when in position for use. The outer strip, C, has depressions at *d* to receive the end of the cross-tie T. The ends of the sills B are placed far enough apart to afford a space for drainage purposes, as shown in Fig. 1 at the point marked *y*, the ends of the rails extending over the ends of the sills and closely approaching each other.

In constructing a railway after the grading has been completed a heavy roller should be passed over the earth. The cross-ties T should then be embedded in the ground about even with the surface. The sills B should then be laid flat on the surface of the ground, the outer edge resting against the shoulder *p*. The outer metallic strip, C, should then be riveted to the sill B and the bolts *s* and *s'* placed in position. The earth should then be well tamped between the flanges *f*. The rails should then be put in place between the ribs *g* and *g'* and the cleats *h* and *h'* fastened in place in the manner hereinbefore described. Lastly, the covering A should be laid and fastened to the flanges by the annealed wire *w*.

Having thus fully described my invention, I claim—

1. In the construction of a metallic railway-track and road-bed, the metallic covering A, in combination with the metallic sill B, having on its inner edge the flange *f*, substantially as described.

2. In the construction of a metallic railway-track and road-bed, the metallic covering A, in combination with the annealed wire fasten-

ings *w*, the joint *j*, and metallic sill B, having on its inner edge the flange *f*', substantially as described.

3. In the construction of a metallic railway track, in combination with the continuous covering A and the sill B, the outer metallic strip, C.

4. In combination with the sill B and covering A, the outer strip, C, substantially as described.

5. The metallic sill B, with ribs *g* and *g*', substantially as and for the purposes described.

6. The cross-tie T, in combination with the outer strip, C, the sill B, the cleats *h* and *h*', the bolts *s* and *s*', the nuts *n* and *n*', the covering A, and annealed wire fastenings *w*, all in the manner and for the purposes specified.

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

DANIEL KAUFMAN.

Witnesses:

CHAS. S. DERLAND,  
JACOB M. GOTTSALL.