

J. M. MAY.
Railway-Rails.

No. 147,956.

Patented Feb. 24, 1874.

Fig. 1.

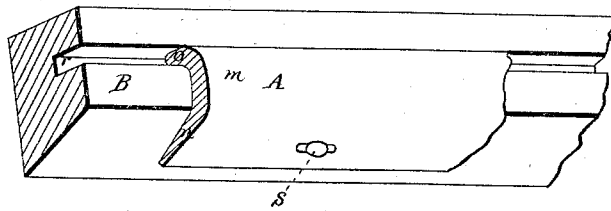


Fig. 2.

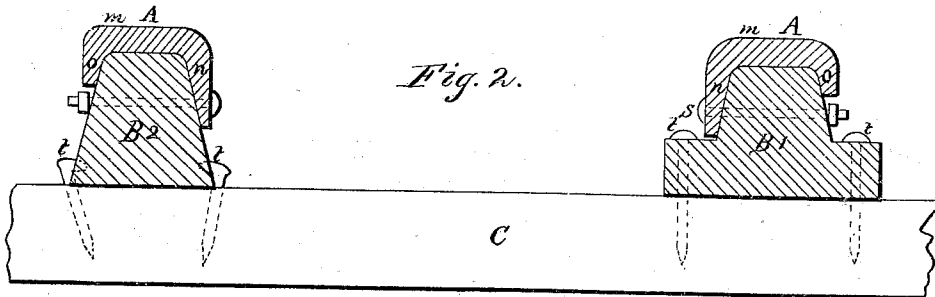
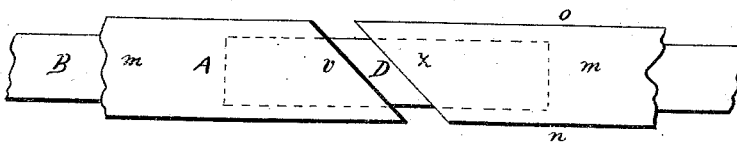


Fig. 3.



Witnesses:

Henry N. Miller
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UNITED STATES PATENT OFFICE.

JOHN M. MAY, OF LINN COUNTY, IOWA.

IMPROVEMENT IN RAILWAY-RAILS.

Specification forming part of Letters Patent No. **147,956**, dated February 24, 1874; application filed January 22, 1873.

To all whom it may concern:

Be it known that I, JOHN M. MAY, of Linn county, State of Iowa, have invented certain Improvements in Rails for Railroads, and for similar purposes, consisting of a metallic rail of iron or steel and one of wood, of which the following is a specification:

The nature of my invention consists in the construction and arrangement of a channel-rail having a travel-surface and downward-projecting flanges, in combination with sills or rails of wood, all as hereinafter more fully set forth.

Figure 1 is a perspective view of the metallic and wooden parts composing the compound rail put together. Fig. 2 is a cross-section, showing the metallic portion and other forms of the wooden portion of the compound rail. Fig. 3 is a top or vertical view of the angular jointing of the ends of the metallic parts and the plate under the ends of the metallic rails.

The same letter represents the same part in each figure.

A is the metallic part, of iron or steel, in the form of a channel-bar or channel-rail, inverted, having a travel-surface, *m*, wide flange *n*, and narrow flange or lip *o*. The wood parts B, B¹, or B², that receive the metallic part, have their sides beveled to correspond with and receive the metallic part, as shown, the latter fitting as a cap or shelter to protect the wooden part, and, being beveled on the inside, grasps the wood more firmly as pressed down by the weight of the passing train. The wood part, protected from rains and moisture, possesses greater firmness and durability; and the flanges *n* and *o* of the metallic part prevent any lateral movement on the wooden portion of the rail—a consideration of the utmost importance. B, in Fig. 1, has a groove, *r*, to receive flange *o*, while B¹ and B², in Fig. 2, show different forms of the wooden part of the compound rail. Bolts *s* are used to fasten the metallic and wood parts together, and spikes *t*, or heavy clamp-screws, may be used to fasten the wood part of the rail to the tie C. D, in Fig. 3, is a plate let into the top of the wood,

so that its upper surface will be on a plane with the top of the wood. The plate extends longitudinally with the rail a few inches in each direction from the joint or ends of the channel-rail, or metallic part, as indicated by dotted lines, the flanges *n* and *o* grasping it with the wood, its upper surface being shaped to fit the interior of the channel-rail. On this plate the ends *v* and *z* of the channel-rail meet, leaving a space for expansion, and are beveled or cut vertically in an oblique direction, as shown. This causes the wheels to press the ends of two rails at the same time, and prevents jarring or jolting as the car-wheels pass over them, and also prevents wearing and battering the ends of the rail. The rail itself may be made in any suitable proportion as to thickness of metal, width, and depth of flanges *n* and *o*, but retaining the channel form, substantially as described.

I do not confine myself to any particular form of the wood portion, so that it properly fits the metallic or channeled part and the tie.

It is obvious that the flange or lip *o* is of the utmost importance, as without it the metallic part would, by the jarring and strain of passing trains, be subjected to a lateral movement fatal to its durability and usefulness. The metallic and wooden parts break joints, forming a continuous bearing of wood underneath the metallic part, giving uniform support to the passing trains; which, with the qualities of the two materials, metal and wood, prevents broken rails—the prolific cause of many railroad disasters, involving loss of life and property. Also, it is obvious that a metallic channeled rail constructed as herein described, with flanges *n* and *o*, gives great vertical strength to the traveled part *m*, and costs much less than the rail in common use.

I am aware that a rail in the form of a right angle has been made, extending partly down the inside, and in a plane partly across the upper surface of a wooden rail or sill; and I do not claim a rail thus made, unless it also has flange or lip *o*, or its equivalent, to give greater strength, and to prevent a lateral movement of the metallic part on the wooden part of the

rail. I am also aware that a channeled rail known as the U-rail, having the vertical portions extend to the tie, and not combined with a longitudinal sill or rail of wood, has been used; and I do not claim a channeled rail, except in combination with sill or rail of wood.

What I claim as my invention, and desire to secure by Letters Patent, is—

The channel-rail A, having travel-surface *m* and flanges *n* o, in combination with sills or rails of wood, all substantially as herein set forth.

JOHN M. MAY.

Witnesses:

FRANK C. HORMEL,
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