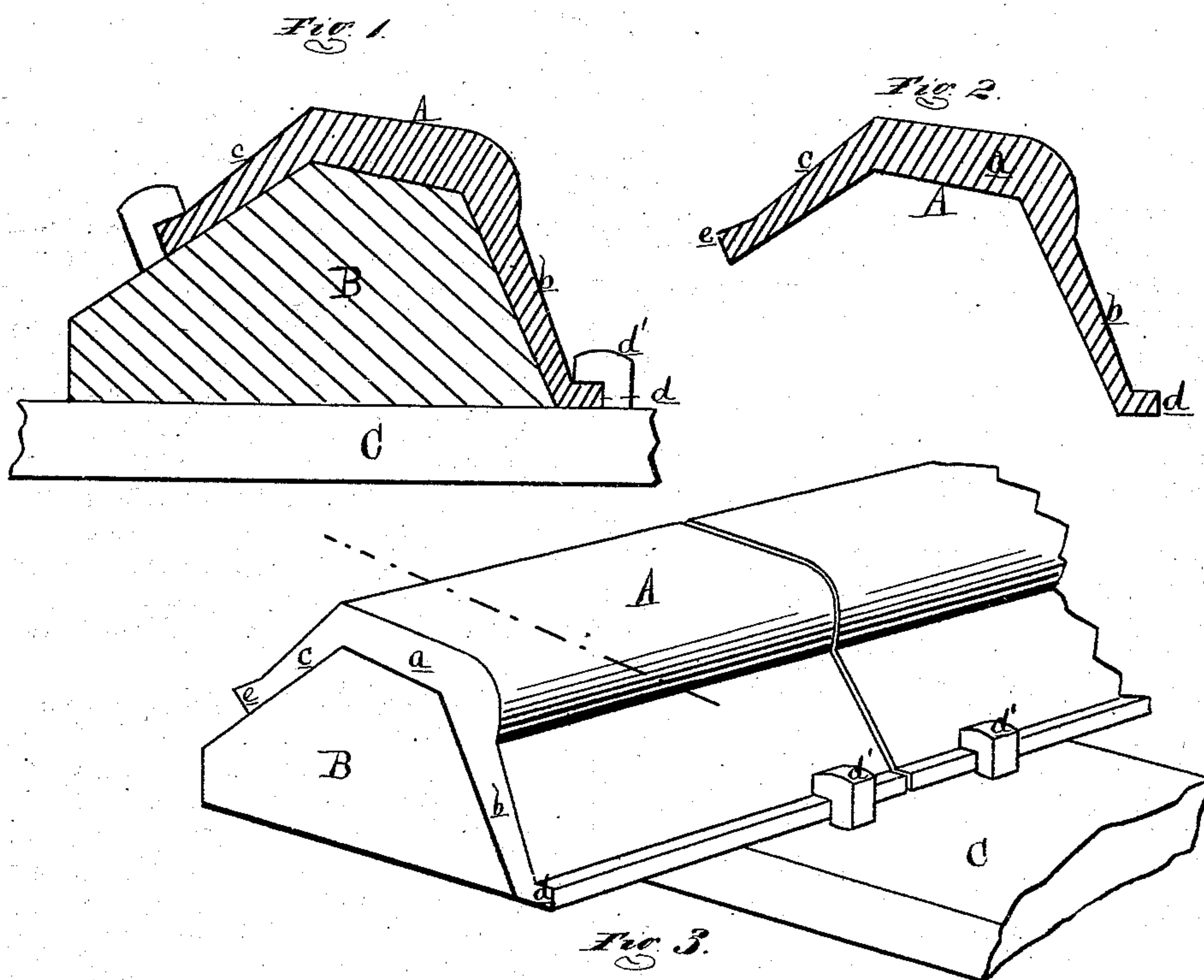


V. D. BEACH.  
Railway Rails.

No. 152,720.

Patented July 7, 1874.



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# UNITED STATES PATENT OFFICE.

VERTOT D. BEACH, OF BATTLE CREEK, MICHIGAN.

## IMPROVEMENT IN RAILWAY-RAILS.

Specification forming part of Letters Patent No. **152,720**, dated July 7, 1874; application filed July 8, 1873.

*To all whom it may concern:*

Be it known that I, VERTOT D. BEACH, of Battle Creek, in the county of Calhoun and State of Michigan, have invented a new and useful Improvement in Railways; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, and being a part of this specification, in which—

Figure 1 is a cross-section of one leg of my improved railway. Fig. 2 is a cross-section of the rail. Fig. 3 is a perspective view of the inner side of one leg of the track.

Like letters indicate like parts in each figure.

The great weight and high price of **T**, **H**, or **U** rails militate against the construction of railways, especially in more sparsely-settled parts of the country where railways of less cost in construction could be profitably operated.

The object of this invention is to make a rail of peculiar form, and lay a track which will be equally as serviceable (and at far less expense in construction) as railways laid with the more heavy and costly rails now in ordinary use. To accomplish this end I make a rail, **A**, as shown, provided with a head, *a*, and two downward and flaring flanges, *b c*, the former of which terminates in an outwardly-projecting flange, *d*, which is designed to rest upon the top of the tie, the flaring flange *b* projecting downward far enough to allow this result to pertain, and to cover and protect the inner side of the stringer upon which the rail is to be laid. The opposite flange *c* is shorter, and also terminates in an outwardly-projecting flange, *e*, the whole contour of the rails being such as to form a roof to protect the stringer upon which it is laid from water and from wear. The stringer **B** is shaped in cross-section like an inverted **V** with the point cut off to fit the under side of the rail. The tie **C** is laid in the ordinary manner. The stringer is then placed upon the tie, and the rail laid on the stringer, when

the spikes *d'*, being of the usual pattern of rail-spikes, secure the flange *b* to the tie. Upon the opposite side of the stringer the flange *c* projects but part way down the inclined face of said stringer, and similar spikes are employed to secure *e* thereto, the spike being of sufficient length to pass this said stringer into the tie, the whole so arranged that the securing of the rail to the stringer will also secure the latter to the tie. Where the adjoining ends of two rails come together, a short plate of rolled or sheet iron, conforming in shape to the upper edge of the stringer and to the under side of the rail, should be laid, to prevent the ends of the rails from bedding into the stringer. Notches similar to those cut into the foot of a **T**-rail should be cut at suitable points to receive the rail-spikes, to prevent the rail from "crawling" or sliding longitudinally.

A railway laid with this iron, and substantially in the manner above described, will be found to possess the following advantages: First, it can be constructed at a cost of \$5,000 less per mile than where a fifty-six-pound rail of the ordinary pattern is used and laid in the usual manner; second, trains will not be thrown from the track by the breakage of a rail, thereby avoiding the usual damages arising from such accident; third, the greater elasticity of the track will prove less destructive of the rolling-stock of the road; and, fourth, the track repairs will be less expensive.

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

1. The rail **A**, provided with downward-projecting and flaring flanges *b c* and outwardly-projecting flanges *d e*, substantially as described.

2. The combination of the rails **A**, constructed as described, with the stringer **B** and tie **C**, as and for the purpose described.

VERTOT D. BEACH.

Witnesses:

THOS. S. SPRAGUE,  
H. S. SPRAGUE.