J. M. SEYMOUR.
Railroad-Bed.

No. 213,697. Patented Mar. 25, 1879.

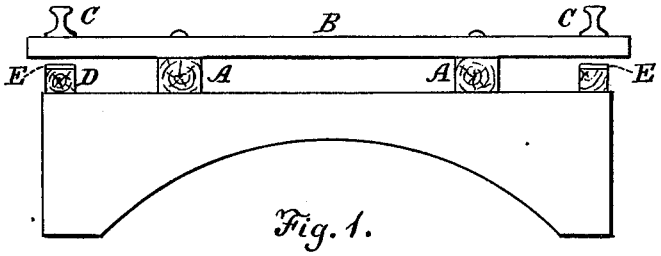

Fig. 1.

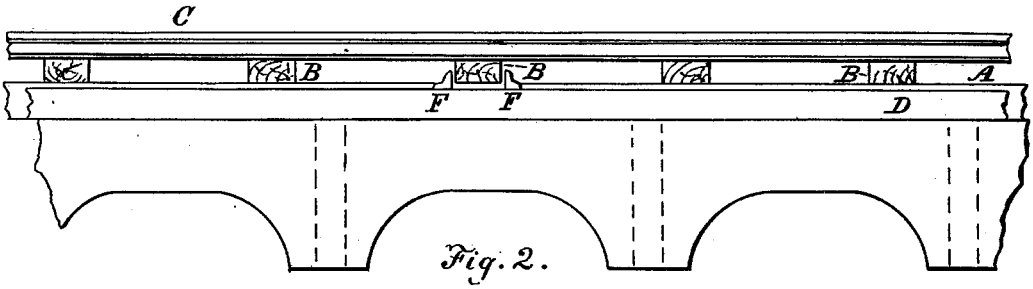

Fig. 2.

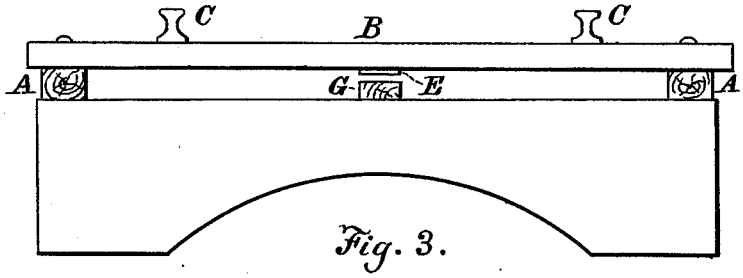

Fig. 3.

Witnesses:
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UNITED STATES PATENT OFFICE.

JAMES M. SEYMOUR, OF NEWARK, NEW JERSEY.

IMPROVEMENT IN RAILROAD-BEDS.

Specification forming part of Letters Patent No. **213,697**, dated March 25, 1879; application filed January 2, 1879.

To all whom it may concern:

Be it known that I, JAMES M. SEYMOUR, of Newark, in the county of Essex and State of New Jersey, have invented a new and useful Improvement in Railroad-Beds, of which the following is a specification:

Figure 1 of the drawings is a cross-section of a railroad-bed. Fig. 2 is a longitudinal section. Fig. 3 is a modified cross-section.

My invention relates to an improvement in railroad-beds, whereby elasticity is combined with solidity, for the better protection of the road and of the rolling-stock, for the increased comfort of travelers, and for the reduction of noise connected with the movement of trains; and consists in the peculiar arrangement of the ties and sleepers relatively to each other.

In the construction of my railroad-beds I lay the sleepers A so that when the ties B are placed upon them they shall project out beyond the sleepers a foot, more or less, as experience shall determine to be the most desirable, so that, having the rails C laid on the ties outside of the line of the sleepers, the weight of a car will cause the ends of the ties to spring down and give the desired elasticity. To provide, however, for a possibility, from extra loading or other cause, of the ties being sprung down too much outside of the sleepers, I place auxiliary or safety sleepers D on the base of the bed, under the ends of the ties, leaving a quarter of an inch, more or less, of space between them and the ties, and these sleepers will support the ties under any extra pressure that may bear them down beyond a proper point for elasticity.

A thin piece of rubber, E, may be placed on the sleepers D, under the ties, to ease their approach to the sleepers.

To prevent the liability of a lateral motion of the ends of the ties, I secure to the sleepers D, each side of the ties, a guide-brace, F.

As a modification of my improvement, the ties may rest on the supporting-sleepers A, as seen in Fig. 3, and one sleeper, G, be placed in the center, having a less thickness than the sleepers A; and in this case, the rails C being placed on the ties one foot, more or less, inside of sleepers A, the desired elasticity may be secured, the same as in the other order.

My invention can be readily applied to roads already built, by making the present sleepers under the rails to take the place of my sleepers D, placing sleepers inside of them corresponding to my sleepers A, having a fourth of an inch, more or less, of greater thickness than the old sleepers, which will suitably raise the ties for the purpose named.

With my improvement the space between the sleepers A may be filled up solid, if more convenient. The base of the bed may be of solid rock, or of solid masonry; and with the elasticity given to the ends of the ties projecting beyond any solid center the same satisfactory results are found.

I do not claim railroad-ties the ends of which whereon the rails rest are rendered elastic by means of slits in the ends of the ties, the supporting-stringers being directly under the rails; but

What I do claim is—

1. The combination of the supporting-stringers, arranged parallel to the rails and within the line thereof, with transverse sleepers, whose ends project beyond the said stringers, and the rails laid upon the said projecting ends of the sleepers, substantially as described.

2. The railroad-bed having the ends of the ties B made to extend out beyond the line of the supporting members A, so that the rails, C, laid on them will be outside of the line of said members, substantially as and for the purpose specified.

3. The combination of the sleepers A, ties B, and the auxiliary sleepers D, substantially as and for the purpose named.

4. The guide-braces F, secured to the sleepers D, one on each side of the ties B, allowing the ends of the ties a free vertical motion, and preventing a lateral motion of the ends of said ties, substantially as specified.

JAMES M. SEYMOUR.

Witnesses:

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