

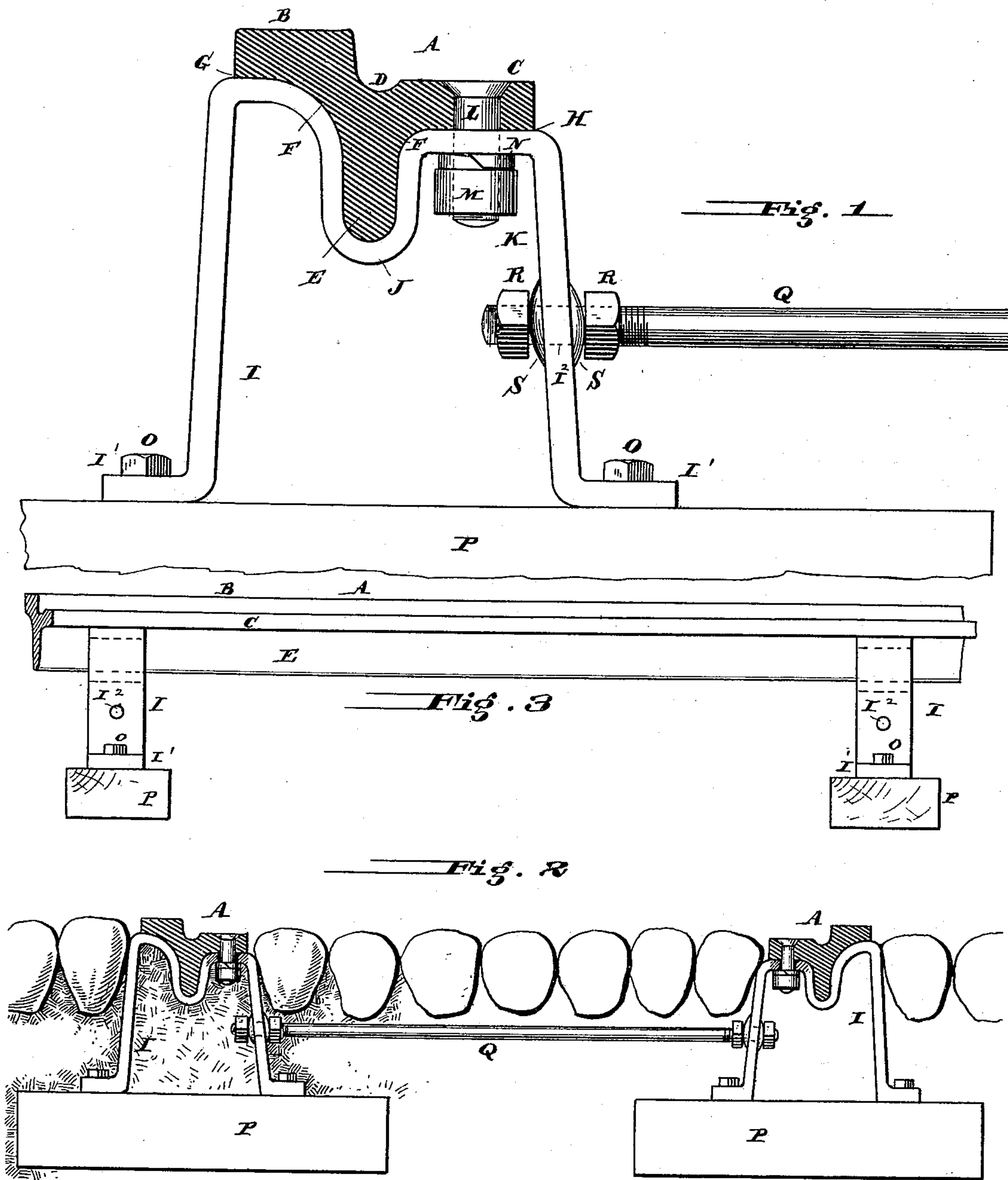
(No Model.)

G. E. BALDWIN.

RAILWAY.

No. 329,429.

Patented Nov. 3, 1885.



Attest
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UNITED STATES PATENT OFFICE.

GEORGE E. BALDWIN, OF PHILADELPHIA, PENNSYLVANIA.

RAILWAY.

SPECIFICATION forming part of Letters Patent No. 329,429, dated November 3, 1885.

Application filed October 21, 1884. Serial No. 146,072. (No model.)

To all whom it may concern:

Be it known that I, GEORGE E. BALDWIN, of the city and county of Philadelphia, and State of Pennsylvania, have invented an Improvement in Railways, of which the following is a specification.

My invention has reference to railways; and it consists in certain improvements, all of which are fully set forth in the following specification, and shown in the accompanying drawings, which form part thereof.

The object of my invention is to provide a suitable railway especially adapted to city purposes, which shall allow of the longitudinal stringers of wood being dispensed with. The objection to the wooden stringers lies in the fact that after being in the ground for a length of time the action of the air and moisture rots them near the upper surface, and requires their replacement at a large expense. The aim in view with my invention is, therefore, to so construct the rails and their supporting-chairs that no stringers are required, thus simplifying the construction and greatly improving the durability of the railway-bed, and which in the long run makes a railway of this construction much cheaper.

In the drawings Figure 1 is a cross-section of one of the rails, and showing the chair in elevation. Fig. 2 is a cross-section of a street-railway bed embodying my improvements, and Fig. 3 is a longitudinal elevation of a portion of the rail as supported upon two of the chairs.

A are the rails, and I the chairs. These rails consist of the upper or treading part, B, and lower or base part, C, the upper surface of which is arranged about three-quarters of an inch below the upper face of part B, and I prefer to make a shallow longitudinal groove, D, at the inner edge of base part C, in which the flange of the wheel may run as the treading-face B wears down. These two parts B and C have their bottoms also arranged on different levels, preferably about three-quarters of an inch, or equal to the thickness of the base C, and at or about the place of their line of junction the metal is rolled downward to form a longitudinal web or rib, E, which is united to the bottoms of parts B C by curved faces F, and these ribs are of sufficient depth (about one and three-quarters inch) to give strength

to sustain the load between the chairs, which are set about four feet apart. The T-rail so formed is supported upon metal chairs I, having their upper parts curved to conform to the bottom of the said rail, in which its parts G and H receive the parts B and C of the rail, and the depression J to receive the rib or web E. The rail is then secured to said chairs by countersunk bolts L, which pass through the base C of the rail and part H of the chair, and are made fast by a round nut, M, between which and the chair a locking-washer, N, may be placed. The nut M is made round, as the space in which it is placed is narrow, and it would be difficult and a slow operation to turn a square or hexagonal nut, whereas a round nut may be turned readily with a pair of pipe-tongs, or their equivalent especially made for the purpose. These chairs are preferably formed of a steel plate stamped up into the requisite shape, and have their feet turned out, as at I', and through which spikes or screws are passed to fasten the said chairs to the blocks of wood P; or, if desired, these may be made of metal plates. The chairs, arranged in line and supporting opposite rails, are united by tie-rods Q, screw-threaded on their ends, which ends pass through holes I' in the inner legs of the shoes, and to which they are locked by nuts R R, which are preferably screwed against adjusting-washers S. By means of these rods Q the gage of the railway may be adjusted to a nicety.

If desired, the blocks P may be united to form the well-known cross-ties; but as they are much more expensive I do not advocate their use.

With this construction of railway-bed great durability is attained, and, when necessary, repairs are easily made.

While I prefer the exact construction shown, it may be modified in its details without departing from my invention.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A rail formed with the upper treading part, B, lower or base part, C, and a longitudinal rib or web projecting downward from the line of juncture or thereabout of the said parts B and C, in combination with chairs

formed of stamped metal and having their upper faces made to receive the lower face of the rail and its rib, substantially as and for the purpose specified.

5 2. A rail formed with the upper treading part, B, lower or base part, C, and a longitudinal rib or web projecting downward from the line of juncture or thereabout of the said parts B and C, in combination with chairs
10 formed of stamped metal and having their upper faces made to receive the lower face of the rail and its rib, and bolts L, extending through base parts, C, of the rail and face H of the chair, substantially as and for the purpose specified.
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3. A rail formed with the upper treading part, B, lower or base part, C, and a longitudinal rib or web projecting downward from the line of juncture or thereabout of the said
20 parts B and C, in combination with chairs formed of stamped metal and having their

upper faces made to receive the lower face of the rail and its rib, and bolts L, extending through base parts, C, of the rail and face H of the chair and furnished with round nuts
25 M, substantially as and for the purpose specified.

4. The rails and their chairs, in combination with rods Q, nuts R, and adjusting-washers S, substantially as and for the purpose specified. 30

5. The combination of rail A, having base part C, treading part B, and rib E, with chairs I, made as shown, and metallic supporting-plates upon which said chairs rest, substantially as and for the purpose specified. 35

In testimony of which invention I hereunto set my hand.

GEO. E. BALDWIN.

Witnesses:

R. M. HUNTER,
ANDREW ZANE, Jr.