

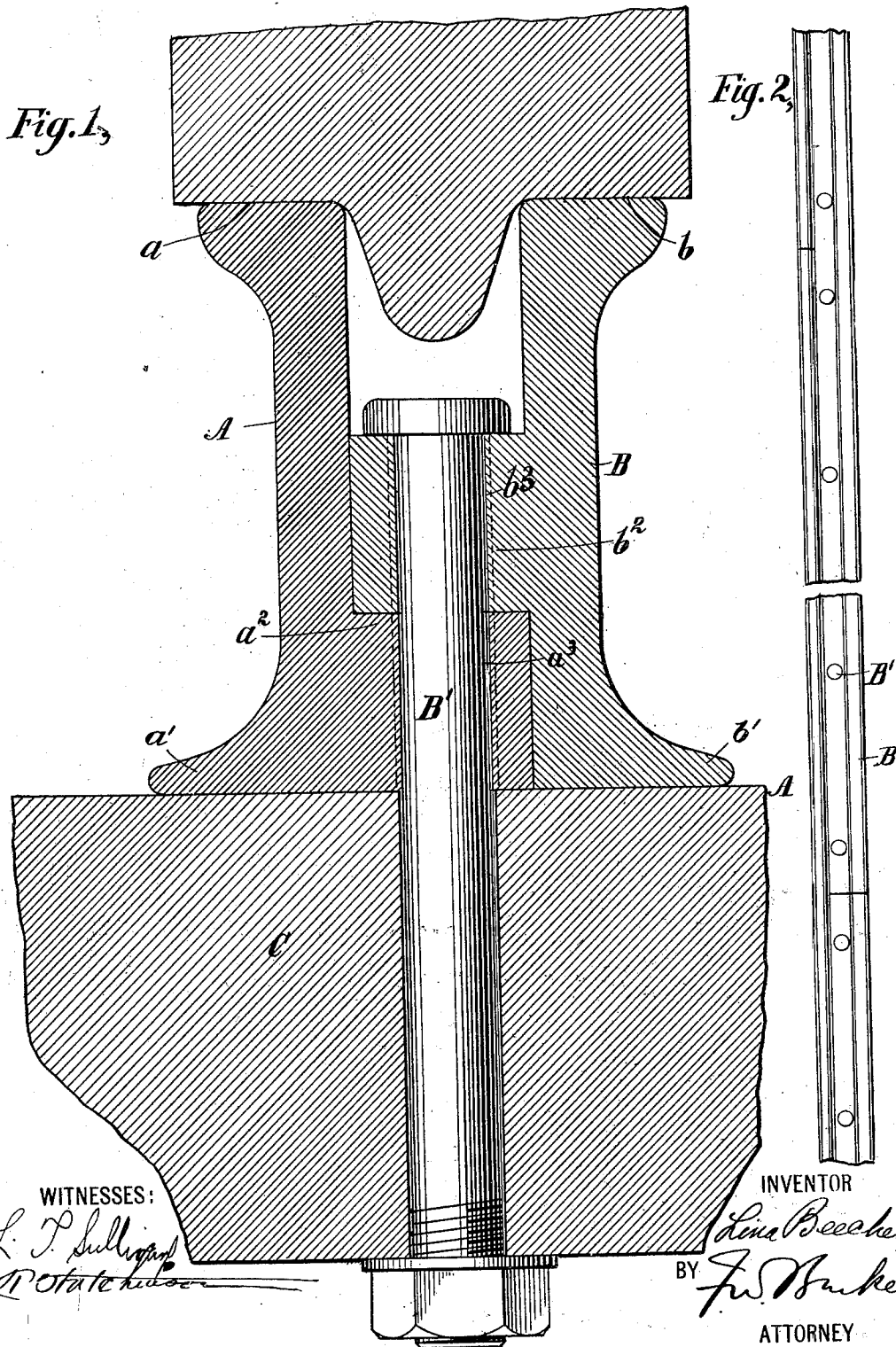
No. 695,138.

Patented Mar. 11, 1902.

L. BEECHER.  
RAIL.

(Application filed July 25, 1900.)

(No Model.)



# UNITED STATES PATENT OFFICE.

LINA BEECHER, OF BATAVIA, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS, TO AMERICAN CONSTRUCTION COMPANY, OF NEW YORK, N. Y.

## RAIL.

SPECIFICATION forming part of Letters Patent No. 695,138, dated March 11, 1902.

Application filed July 25, 1900. Serial No. 24,797. (No model.)

*To all whom it may concern:*

Be it known that I, LINA BEECHER, a citizen of the United States, residing at Batavia, in the county of Genesee and State of New York, have invented new and useful Improvements in Rails, of which the following is a specification.

This invention relates to an improved construction of rail for rolling-stock in general, but being particularly adapted for use with my monorailway system, as disclosed in my United States Patent No. 628,174 and in an application filed simultaneously herewith.

My said new form of rail in brief consists of two longitudinal sections whose web portions lap each other and are united to form an integral rail by means of vertical bolts, each web portion being provided with a traction-surface in like parallel planes and an anti-friction space or channel existing therebetween.

In the drawings accompanying this application, Figure 1 is a cross-sectional view of my improved rail, showing its application; and Fig. 2 is a side elevation of a portion of two meeting rails broken away, showing means of connection and breaking of joint.

As seen in the figures, the letters A B indicate the webs of the two sections of my rail, said webs having, respectively, the traction-surfaces  $a b$  and the base portions  $a' b'$ . The webs A B have the inward flanges  $a^2 b^2$ , which are arranged in different planes and lie snugly one upon the other, and said flanges are provided with conterminous bolt-holes  $a^3 b^3$ , through which bolts B' are passed to secure the two sections of the rail together. By the utilization of this form of rail the chairs, fish-plates, and spikes commonly used to unite rails together and to their ties are dispensed with, as the bolts B' may be passed through the tie, as C, thus securely fastening the rail-sections not only together, but also to the tie, and in each of my composite rails one section may project beyond the other and abut into a similar rail, the two opposing projecting section ends having their flanges  $a^2 b^2$  provided with meeting bolt-holes, through which they may be connected by bolts. By this means the joints are broken, resulting in avoidance of

jolting and wear upon the meeting ends of the rails. A further advantage of this means of connecting is that in electrical traction systems the rail thus formed is permanently continuous, and it may better serve the purpose of a current-conveyer, avoiding the necessity of bonding.

As will be perceived, my improved sectional rail is provided with a central longitudinal cavity or channel, caused by the absence of material at the inner surface portion of each section. This causes the rail to have the two traction-surfaces intended, and which is a feature of the invention. The inner edge of each section is preferably rounded, as seen, while the traction-surfaces are left substantially flat. This form of rail is of course only intended for traverse by wheels furnished with a central circumferential rib to prevent derailment, such as is described in my application of even date herewith.

The bitraction-surface of my improved rail affords a broad-gage-wheel base which is very desirable, rendering the running steady, as well as increasing the tractive force.

It may be advanced that the channel existing between my two rail-sections will under certain conditions clog up with cinders, ice, &c.; but this objection is obviated by the provision of suitable outlets formed in the base of the rail-sections, as indicated in dotted lines.

In place of bolting the rail-sections together, except where it is necessary to secure the rail to the ties, I may provide vertical studs upon the flange of one rail-section to take into a recess or bolt-hole in the flange of the other rail-section, thereby diminishing the number of bolts required.

Having now described my invention, I declare that what I claim is—

1. In a rail, two longitudinal separate traction-sections; inward, lapping flanges on each section, vertical registering bolt-holes in each flange, and bolts for uniting said sections, together and to the rail-ties.

2. In a rail, two longitudinal parallel sections in such juxtaposition as to form an approximately central channel whereby two separate traction-surfaces are presented and

means whereby said sections are simultaneously secured to each other and the tie, substantially as described.

3. In a rail, two longitudinal parallel sections, inwardly-projected overlapping flanges thereon whereby said sections are separated to form an approximately central channel and two traction-surfaces, and bolts passing through said flanges and the ties whereby  
5 said sections are simultaneously secured to each other and the ties, substantially as described.  
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4. In a rail, two longitudinal parallel sections, inwardly-projected overlapping flanges thereon, whereby said sections are separated to form an approximately central channel  
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and two traction-surfaces, and bolts passing through said flanges and the ties whereby said sections are simultaneously secured to each other and the ties, the ends of successive sections abutting against each other and breaking joints with its parallel section to form a continuous rail, substantially as described. 20

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses. 20

LINA BEECHER.

Witnesses:

L. T. SULLIVAN,  
JAMES R. HUTCHINSON.