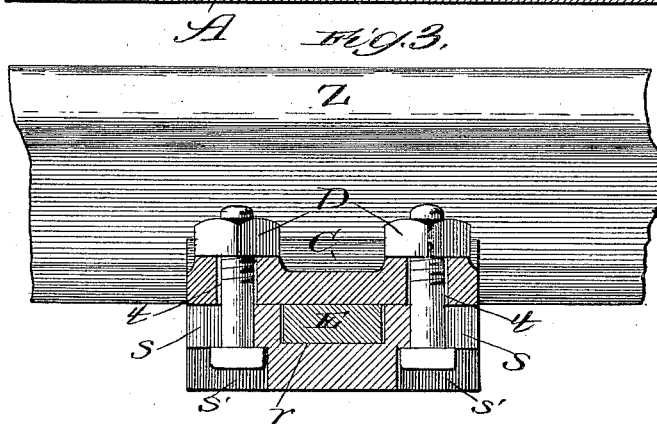
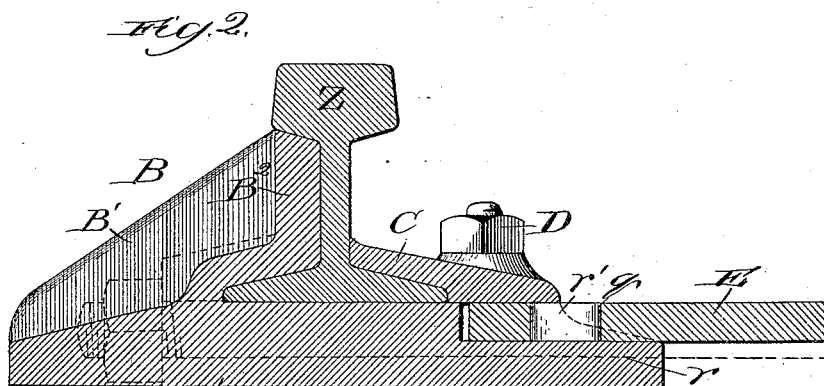
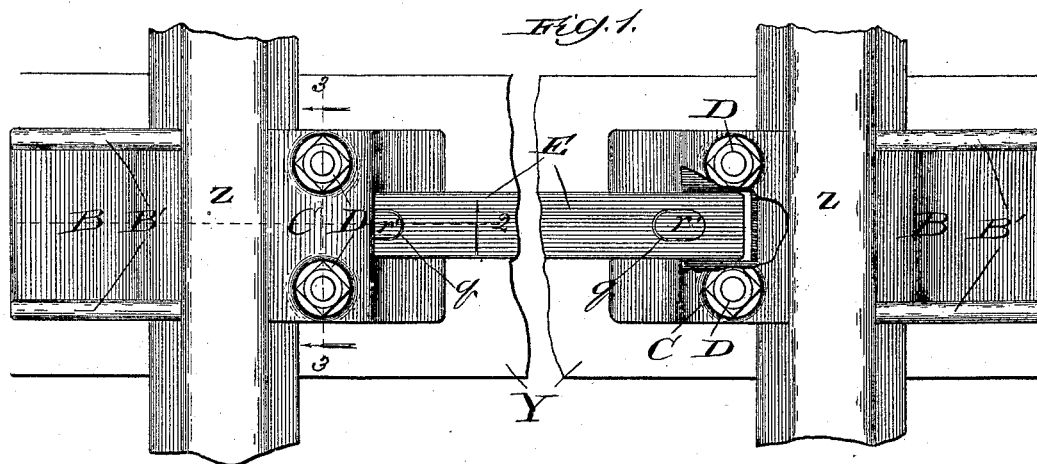


(No Model.)

J. J. ANDERSON.
RAIL CHAIR.

No. 419,814.

Patented Jan. 21, 1890.



Witnesses:
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UNITED STATES PATENT OFFICE.

JAMES J. ANDERSON, OF CHICAGO, ILLINOIS.

RAIL-CHAIR.

SPECIFICATION forming part of Letters Patent No. 419,814, dated January 21, 1890.

Application filed July 19, 1889. Serial No. 318,008. (No model.)

To all whom it may concern:

Be it known that I, JAMES J. ANDERSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Rail-Chairs, of which the following is a specification.

My invention has for its object the provision of a rail-chair of improved construction which shall be capable of ready adjustment into operative position, and which when so adjusted will operate as an effective safeguard against the overturning of the rail.

It is further my object to afford such a rail-chair of a peculiar construction which will render it strong and durable and economical to manufacture by employing a comparatively small amount of metal so disposed as to produce the highest degree of strength and durability.

In the drawings, Figure 1 is a broken top plan view of a railway-track provided with my improved rail-chair; and Figs. 2 and 3, broken sections, taken on the lines 2 and 3 3, respectively, of Fig. 1, and viewed in the direction of the arrows. In Fig. 2 there is indicated by dotted lines a modified form of tie-rod and means for securing the same in position.

The chair comprises as main features a base A, a cheek or outside brace B, integral with the base, and an inside brace or clip C, which may be removably secured to the base by nut-bolts D or any other desirable means, and a tie-rod E. The bearing-surface of the cheek B may be shaped to conform in outline to a rail Z and fit snugly over the flange and against the web and under side of the head of the rail, so that the latter would be held against being turned over even without the clip C, which merely covers the opposite flange of the rail and abuts against the web, as shown. The cheek B is formed with two end ribs B', as shown, which extend obliquely from the outer extremity of the base A to the head of the rail, and with an intermediate web B². The chair should be long enough to extend laterally of the rail on the outer side thereof a distance sufficient, at least, to give ample strength to the cheek B and to enlarge the foundation of the rail, so that the weight of a

car would prevent the rail's being overturned by any lateral pressure against it of the flange of the car-wheel. When the clip C is to be secured to the chair A by nut-bolts, it is formed with bolt-holes *t t*, and the chair is provided with recesses *s* on opposite sides large enough to permit the insertion into them of the shanks of the bolts, and with large recesses *s'* below the recesses *s* to receive the heads of the bolts. This construction permits ready adjustment of the clips and prevents the bolt-heads from extending below the chair.

In placing my improved rail-chairs in operative position they may, if desired, be spiked to the ties Y or countersunk into the latter to prevent spreading of the rails. I prefer, however, to employ the tie-rods E either in conjunction with or without the countersinking or spiking down of the chairs. On the upper face of its outer side the chair is provided with a recess *r*, which extends part way underneath the clip C and contains a stud *r'*. The end of the tie-rod conforms in shape, substantially, to the recess *r*, and is provided with an eye *q*, which fits over the stud *r'*. To adjust the tie-rod, it is placed in the recess *r* and over the stud before the clip is adjusted, and the latter, when secured in operative position, affords a keeper for the tie-rod and prevents its withdrawal. When the rail-chairs are provided on only one rail of the track, the opposite end of the tie-rod may be secured to the opposite rail in any suitable manner. When, however, both rails are provided with the chairs, the opposite end of the tie-rod is shaped like the end described and is secured in like manner to the opposite rail-chair, as shown in Fig. 1.

To apply the rail-chairs to a track that is already laid, it is only necessary to undermine the ties upon which they are to rest and withdraw the spikes which hold the ties to the rail, so that the former will drop a sufficient distance to permit the inner edges of the bases A to be passed under the rail and into position. The tie-rods and clips are then adjusted, as described, and the ties raised by under-propping in the common manner.

My improved rail-chair connected together with tie-rods, as described, affords a perfect safeguard against either the overturning or

spreading apart of the rails. They may be applied anywhere, and are therefore especially desirable at curves and switches.

In the modification indicated by dotted lines in Fig. 2 the recess *r* is shaped to receive a round tie-rod E, and runs through to the opposite side of the chair, where the base A is cut away to permit a nut to be screwed onto the end of the tie-rod. When a tie-rod of this modified form is to be used, it is preferable to have the web B² thickened toward the base, as indicated, to afford a shoulder for the nut to bear against. An adjustable tie-rod of this general description may be employed in places where it is desired to draw the tracks closer together to compensate for wear upon the inner face of the head of a rail.

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

1. In a rail-chair, the combination of the base A, provided with the recess *r* below the plane of the under side of the rail, cheek B,

integral with the base to extend against the outer side of the rail, clip C, secured to the base over the recess to extend against the inner side of the rail, and a tie-rod E, extending into the recess *r*, substantially as described.

2. In a rail-chair, the combination of the base A, provided with a recess extending across the base below the plane of the under side of the rail to receive the tie-rod, a cheek integral with the base at the side thereof corresponding with the outside of the rail, a clip secured to the base to extend against the inner side of the rail, and a tie-rod entering and extending through the recess and provided with an adjusting device—such as a screw-thread and nut—whereby the wearing away of the rail may be compensated for by shortening the tie-rod, as described.

JAMES J. ANDERSON.

In presence of—

J. W. DYRENFORTH,
M. J. FROST.