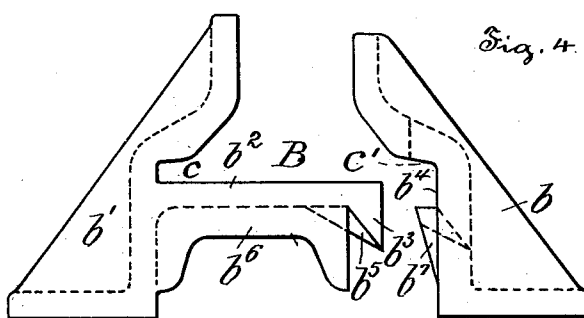
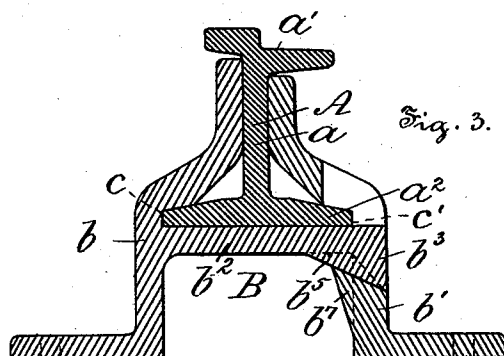
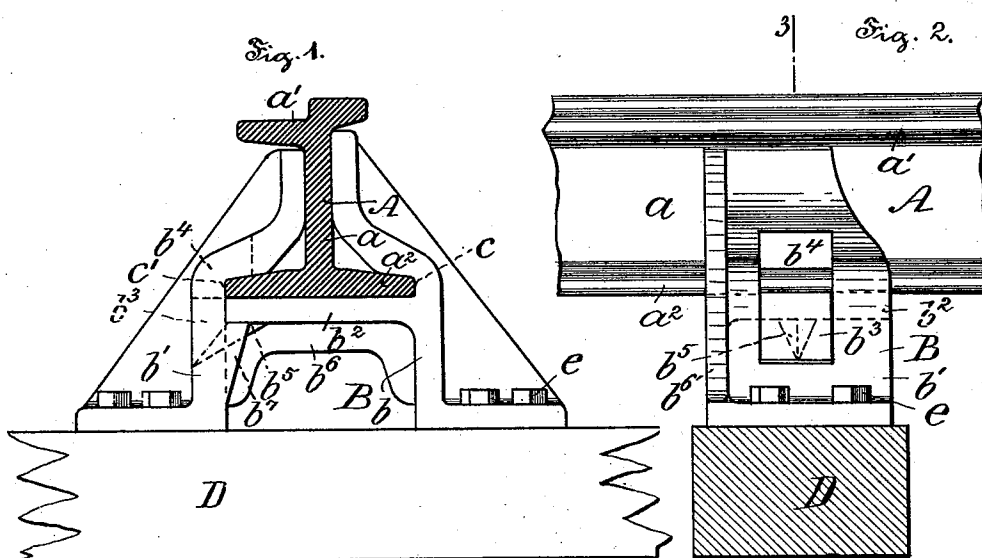


(No Model.)

G. E. WALLS.
RAIL CHAIR.

No. 465,223.

Patented Dec. 15, 1891.



Witnesses:
Hermann Bormann
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att'y.

UNITED STATES PATENT OFFICE.

GEORGE EMORY WALLS, OF PHILADELPHIA, PENNSYLVANIA.

RAIL-CHAIR.

SPECIFICATION forming part of Letters Patent No. 465,223, dated December 15, 1891.

Application filed July 29, 1891. Serial No. 401,047. (No model.)

To all whom it may concern:

Be it known that I, GEORGE EMORY WALLS, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Rail-Chairs, of which the following is a specification.

My invention relates in general to sectional rail-chairs, and more particularly to certain improvements in the construction and mode of operation of the means or devices whereby the parts of the chair are held or clamped together.

Heretofore it has been customary to construct one of the members of a sectional chair in such manner that it engaged both the top and bottom flanges of an I-rail, and to construct the other or corresponding member of the chair in such manner that it engaged only the lower flange of the rail. In use the two members of the chair were secured to place on opposite sides of a rail by means of a bolt engaging them both and passing beneath the lower flange of the rail.

In a sectional chair embodying features of my invention the respective members or parts of the chair engage both the top and bottom flanges of the rail and are locked or clamped together and to the rail by means of a dovetail joint.

The principal objects of my present invention are, first, to provide a sectional rail-chair in which the two members are firmly clamped to the rail and to each other without the employment of bolts, nuts, or screws, and, second, to provide a self-clamping sectional rail-chair in which both parts or members engage and support the top and bottom flanges of the rail.

My invention consists of a sectional rail-chair having the respective parts thereof united or joined by a dovetail joint; and my invention further consists of the improvements in a rail-chair hereinafter fully described, and pointed out in the claims.

The nature and characteristic features of my invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, and in which—

Figure 1 is an elevation, partly in section, of a rail-chair embodying features of my invention and showing the same supported upon a sleeper and in application to an I-shaped rail. Fig. 2 is a side elevation of Fig. 1. Fig. 3 is a section taken on the line 3 3 of Fig. 2, showing one member of the sectional chair provided with a tenon and the other member with a mortise, and also showing both members in engagement with the top and bottom flanges of an I-shaped rail; and Fig. 4 is a detached view showing the two sections of the chair, and also showing the detail construction of the tenon and mortise.

In the drawings, A is an I-shaped rail comprising a web *a*, a top flange *a'*, provided with a wheel-tread, and a bottom flange *a''*.

B is a sectional rail-chair comprising two members *b* and *b'*, adapted, respectively, to contact with and support the web A on opposite sides thereof and adjacent to the under side of the top flange *a'*. One of the sections *b* is provided with a recess *c*, into which one side of the lower flange *a''* is fitted, and with a bridge-piece *b''*, that passes under and supports the lower flange *a''* of the rail and rests upon a bracket *b'*, projecting from the member *b*.

b'' is a tenon projecting from the bridge-piece *b''* and adapted to engage a suitable mortise or slot in the member *b*. The tenon *b''* is preferably made hook or wedge shaped, as shown in Fig. 4, and is provided with a transversely-ranging wedge-shaped rib *b'''*. The side walls of the mortise *b'''* are made wedge-shaped to correspond with the mortise *b''* and rib *b'''*, so that the tenon *b''* and mortise *b'''* when hooked together constitute a dovetail joint.

c' is a recess formed in the member *b* and adapted to engage the lower flange *a''* of the rail.

b''' is a brace connected with the member *b* and bridge-piece *b''* and adapted to contact with and support the lower portion of the member *b*.

In use the lower flange *a''* of the rail is placed upon the bridge-piece *b''* and inserted into the recess *c*, whereupon the tenon *b''* is inserted into the mortise *b'''*, and the member *b* is shifted in such manner that the lower

flange a^2 of the rail is brought into engagement with the recess c' , it being understood that the two parts b and b' engage the web a on opposite sides thereof and beneath the top flange a' , and also that the brace a^6 engages the lower portion of the member b . After the rail A has been mounted in a suitable number of chairs in the manner hereinabove explained, each chair is secured to a sleeper D by means of spikes e , or in any other preferred manner.

Among the many advantages appertaining to my improved rail-chair and not hereinbefore referred to are, first, the parts of the chair may be made of cast metal and used without being drilled, milled, planed, or otherwise finished or smoothed; second, the weight of the rail and of vehicles or cars traveling thereon causes the dovetail joint to draw and clamp the two members of the chair firmly upon opposite sides of the rail, and the greater the load upon the rail the more firmly are the two members of the chair drawn together; third, the chair may be readily taken apart or detached from the rail in order to renew rails or for any other purposes, and, fourth, the chair, when applied to the meeting ends of rails, serves to hold or retain the same in alignment and performs the functions of a chair as well as of a so-called "fish-plate joint."

It will be obvious to those skilled in the art to which my invention appertains that modifications may be made in the details thereof without departing from the spirit of the invention—for example, in the shape or configuration of the surfaces which contact with and grip the rail—and hence I do not limit myself to the exact construction and configuration of rail-chair hereinbefore described; but,

Having thus described the nature and objects of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A rail-chair comprising two members, whereof one is provided with a bridge-piece having a wedge-shaped tenon and a rib and the other provided with a mortise, the construction being such that both members engage and support the top and bottom flanges of the rail without bolts, nuts, or screws, substantially as described.

2. A sectional rail-chair having one part provided with a wedge-shaped tenon and a transversely-ranging rib and the other part provided with a mortise, substantially as and for the purposes set forth.

3. A rail-chair comprising two sections or members, whereof one is provided with a lateral bridge-piece with a hooked tenon having a transversely-ranging rib, and the other member provided with a recessed bracket and mortise, the construction being such that said members or sections are dovetailed together, so as to form a self-clamping sectional chair for engaging and supporting the top and bottom flanges of a rail, substantially as described.

4. The combination of a rail-chair comprising two sections or members, whereof one is provided with a bridge-piece having a hooked tenon and a rib and the other with a recessed bracket and a mortise with an I-shaped rail, the construction and arrangement being such that the parts of said chair are dovetailed to each other and the top and bottom flanges of said rail firmly clamped to said chair without nuts, bolts, and screws, substantially as described.

In witness whereof I have hereunto set my signature in the presence of two subscribing witnesses.

GEO. EMORY WALLS.

Witnesses:

RICHARD C. MAXWELL,
THOMAS M. SMITH.