E. F. Barnes,

Railroad Chair,

No. 32,114. Patented Apr. 23, 1861.

Fig: 1

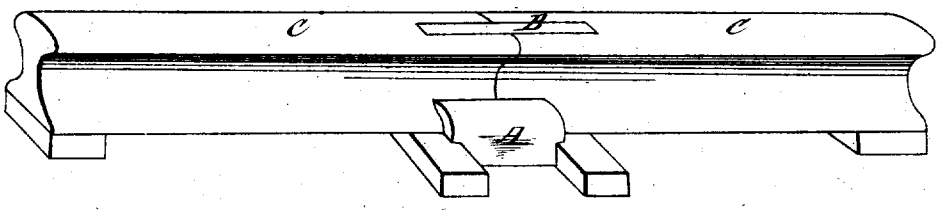


Fig: 2

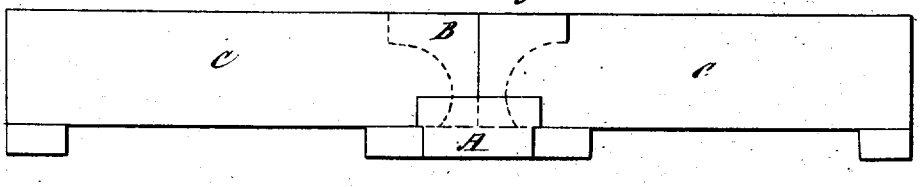
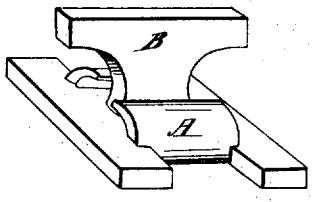


Fig: 3



Witnesses
S. D. Law
Howard Bird

Inventor.
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UNITED STATES PATENT OFFICE.

EDMUND F. BARNES, OF BROOKLYN, NEW YORK.

RAILROAD CHAIR AND SPLICE.

Specification of Letters Patent No. 32,114, dated April 23, 1861.

To all whom it may concern:

Be it known that I, EDMUND F. BARNES, of Brooklyn, State of New York, have invented a new and useful Improvement in Railway-Chairs, Being a Combined Chair and Splice; and I do hereby declare that the following is a full, clear, and exact description thereof and of its construction and mode or manner of operation, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

This invention or improvement combines a railway chair or seat for the support of the ends of the rails, and a splice, which serves the purpose of a joint to hold the ends of the rails in position and prevent them moving sidewise or vertically, which is so arranged in respect to the ends of the rails that there can be no break or opening between the ends of the rails, to affect the motion of the carriage, or by which the rails can be injured by the percussion of the wheels, but a continuous, unbroken bearing surface is secured.

Figure 1 is a view of the chair and splice in position and combination with the rails. Fig. 2 is a view of the chair and splice detached. Fig. 3 is a longitudinal sectional view of Fig. 1, showing the chair and splice and rails in position.

The chair A. or seat for the rails may be made after any of the usual and approved forms of chairs, intended to furnish a support for the ends of the rails.

To the center of the chair A. and rising vertically therefrom, is fixed a splice or part B. of iron, which is generally of a thickness about equal to one third of the thickness of the rail C. and the height of which is the same with that of the rail C. This piece B. may be riveted to the chair, or may be fastened by screws and nuts, or in any secure manner.

I prefer to have the ends of the part B. curved, as represented in Figs. 2 and 3, as such form acts as a guard to prevent the ends of the rails lifting or rising upward; but if the ends of such part B. are straight up and down or T-shaped such part will still be as effectual to prevent side movement of the rails, and will afford the same continuity of bearing surface. The sides of the parts B. may also be slightly concave, though such form is not deemed as desirable as the one shown in Fig. 2. Changes in the form of the part B. are not however material.

The ends of the rail are made with a recess, or cavity, as shown in section in Fig. 3, corresponding in size and shape with the splice B., so that when the rails *c. c.* are brought together on the chair A the splice B. will enter within the ends of such rails, as shown in Fig. 2, and the whole form a continuous rail with an unbroken bearing surface, as seen in Fig. 1.

As will be at once apparent, the splice B. entering within the ends of the rails, holds them from all side movement away from each other, and secures them as firmly and permanently, as the best fish joints, or any other kind of joint, and by being of the same height with the rail C. it furnishes a bearing for the wheels of even greater strength than the rail itself, as it has the broad surface of the chair A. to rest upon. Being placed also centrally in the rail, it can not become broken or displaced, and is kept constantly in the same position, and from its central location must necessarily be a bearing surface, under all circumstances.

Such chairs, as have an upright part on the outside of the rails, even where extending to the top of the rail, are defective because of their liability of becoming broken or displaced, and because when for any reason the car is thrown against the opposite rail, the tread of the wheel will be entirely off the chair, and the rails will then be liable to the same injury as when the ordinary chairs are used. As before stated all these objections are removed by the position and arrangement of the part B., as described in my invention. The part B also, as seen in Fig. 1, effectually breaks or interrupts the joint between the rails C. C. and secures a continuous and uninterrupted bearing surface, whatever may be the separation of the ends of the rails, by contraction or otherwise, so that the bearing or pressure is upon both rail and splice except at the single point of the division of the rails, when the bearing is momentarily upon the part B alone.

To all who are familiar with matters connected with railroads, it is well known, that the expense attendant upon setting up and repairing the ends of the rails, which are battered and flattened by the percussion of the wheels, is very great, in addition to the

unevenness of the track, produced from this cause, and the consequent unpleasantness and danger to those passing over it.

By the use of my combined chair and splice the track is rendered continuous and even and thereby locomotion rendered pleasanter and safer, and the battering and destruction of the ends of the rails prevented, and thus the great expense of their continued repair saved. The opening at the ends of the rails has also the effect to give a vertical vibratory motion to the cars, as each successive wheel passes over it, which sudden vibration, especially in such heavy bodies, tends greatly to wrench and ultimately destroy the cars. This serious objection is obviated by my invention and arrangement.

I am aware that splice pieces of various forms, some of which resemble the splice B., have been used to hold the sections of rails in line, but in all cases such splice pieces have been independent of the chairs, and they were made use of for a different purpose.

I do not claim any arrangement of splice for holding the rails in line; but

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

The combination and arrangement of the chair A. and splice B. in connection with the rails C. C. substantially as and for the purposes set forth.

EDMUND F. BARNES.

Witnesses:

S. D. LACEY,

A. DIETER.