(No Model.)

W. BRUGLER.

RAIL JOINT SUPPORT.

No. 590,878. Patented Sept. 28, 1897.

Fig. 1.

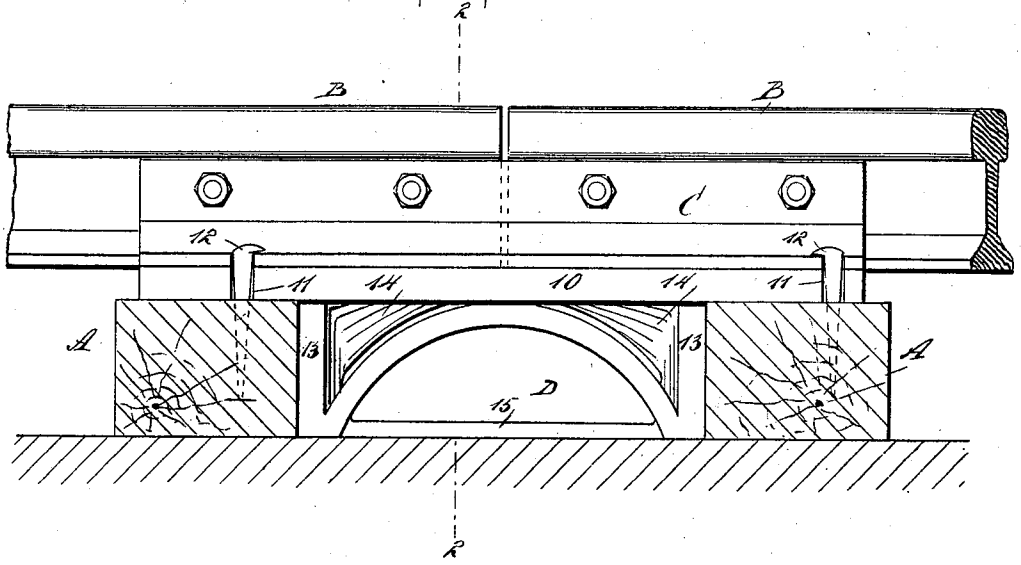
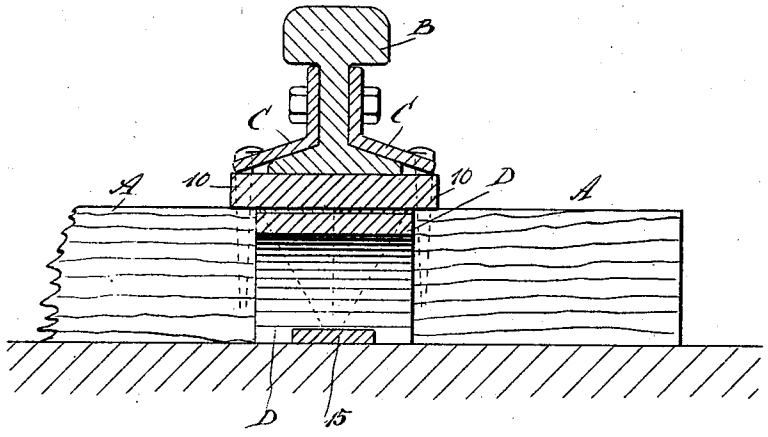


Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WOODLEY BRUGLER, OF COLUMBIA, NEW JERSEY, ASSIGNOR TO HIMSELF AND MICHAEL W. WELLER, OF SAME PLACE, AND JOHN IRVIN MILLER, OF PORTLAND, PENNSYLVANIA.

RAIL-JOINT SUPPORT.

SPECIFICATION forming part of Letters Patent No. 590,878, dated September 28, 1897.

Application filed March 9, 1897. Serial No. 626,594. (No model.)

To all whom it may concern:

Be it known that I, WOODLEY BRUGLER, of Columbia, in the county of Warren and State of New Jersey, have invented a new and Improved Rail-Joint Support, of which the following is a full, clear, and exact description.

The object of the invention is to so construct a support for rail-joints that the rails at that point will be supported throughout the entire stretch between the ties and in a uniform and efficient manner, the support being such that one rail cannot be driven below the level of the other. Under this construction, which is simple, durable, and economic and applicable to any rail, the ends of the rails will be prevented from becoming battered, the expense of raising the rails at the ends will be obviated, and the wheels of the rolling-stock will not be subjected to the present wear.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both the figures.

Figure 1 is a side elevation of a rail-joint, illustrating the application of the improvement thereto; and Fig. 2 is a vertical section taken substantially on the line 2 2 of Fig. 1.

The ties A are of the usual construction, the rails B may be of the ordinary character, and the joint may be formed in any approved manner, but the fish-plates C that are ordinarily employed are of the angled type, resting against the web of the rail and upon its flange. The rails and the fish-plates are supported upon a bearing-plate 10. This plate extends from one tie, A, to the other beneath the joint and is preferably of such width as to extend a slight distance beyond the outer side edges of the lower portions of the fish-plates C, as illustrated in Fig. 2. The same spikes 12 which are used to hold the fish-plate and rails in position are also employed to hold the bearing-plate 10 fast on the ties, the spikes passing through slots 11 in the bearing-plate registering with those in the fish plate, as illustrated.

In order that the bearing-plate shall have perfect support between the ties, an arch D is provided, the said arch having upwardly-extending end plates 13, integral with its end portions, which end plates have bearing against the sides of the ties, as shown in Fig. 1. The central portion of the arch D bears directly against the central portion of the bearing-plate. The end members 13 of the arch also engage with the under surface of the bearing-plate 10, and the space between the crown of the arch and the end members 13 is usually closed, or practically so, by panels 14, which likewise engage with the under face of the bearing-plate. The arch is prevented from spreading under pressure, no matter how great, and the ties are prevented from being spread apart by any spreading of the arch through the medium of a cross-bar 15, which connects the end portions of the arch at the bottom, as shown in both of the figures. It is obvious that under such a construction the rails may be laid and supported in such manner as to form a continuous even tread-surface and that the end of one rail at the joint cannot possibly be forced below the level of the end of an abutting rail. Consequently there will be no pounding at the joints, the rolling-stock may pass over the rails without discomfort to the passengers, and the rolling-stock will be preserved against the frequent shocks it now sustains under the old system of laying rails.

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

1. The combination in a rail-joint, of the ties, the rails, the bearing-plate resting on the ties and engaging the rail-bases both at the ties and between them, and an arch located between the ties and engaging the lower surface of the bearing-plate, said arch having its support exclusively upon the ground, and engaging the ties with its ends to hold it against longitudinal movement, substantially as described.

2. In a railway-rail joint, the combination, with the rails and the fish-plates, of a bear-

ing-plate located under the rails at their joints and under the fish-plates, ties supporting the bearing-plate, and an arch having bearing against the ties and likewise engaging with the bearing-plate between the ties, substantially as shown and described.

3. The combination, with abutting railway-rails, a connecting-plate for the joint of the rails, and ties adapted to support the rails, of a bearing-plate interposed between the ties and the bottom of the rails and their connecting-plates, an arch located between the ties, having a center and upper end engagement with the bottom of the bearing-plate, and a connection between the lower end portions of the arch, as and for the purpose specified.

4. The combination, with abutting railway-rails, their fish-plates, and ties supporting the rails and their fish-plates, of a bearing-plate located between the ties and the rails and their fish-plates, having engagement with all of said objects, a supporting-arch located between the ties, having upright end sections engaging with the ties, panels between the crown and end sections of the arch, engaging in connection with the crown of the arch with the under face of the bearing-plate, and a tie-bar connecting the lower end portions of the arch, as and for the purpose specified.

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Witnesses:
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