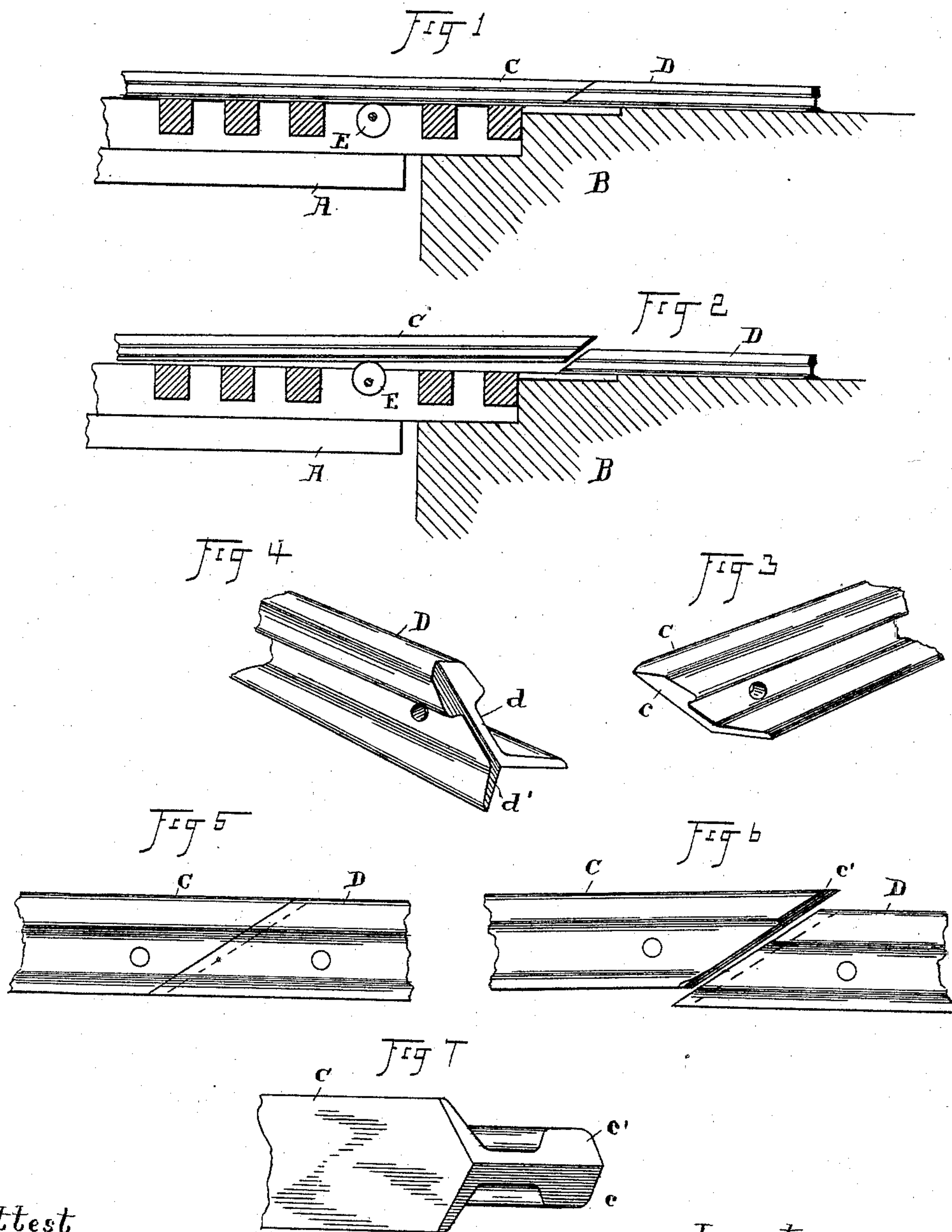


(No Model.)

J. T. O'SHEA.
RAIL FOR RAILWAYS.

No. 476,165.

Patented May 31, 1892.



Attest
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RAIL FOR RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 476,165, dated May 31, 1892.

Application filed December 26, 1891. Serial No. 416,264. (No model.)

To all whom it may concern:

Be it known that I, JOHN T. O'SHEA, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Rails for Railways; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to rails for railways, and it appertains especially to the construction of the ends of the rails, the object being to provide a construction whereby the meeting ends of rails at draw-bridges may be brought together into such close metallic contact that their union will be practically equal to a continuous rail and at the same time be self-locking and connected or disconnected by less vertical movement than heretofore. It will be understood that at draw-bridges the end rails on the bridge are necessarily locked with the abutting ends of the rails at the landing by some means which will make a safe and firm joint, and these means must be such as will disengage the bridge-rail when said rail is raised at its outer end preparatory to swinging the bridge and lock the same when the said rail is dropped back into position on the return of the bridge.

Various means have from time to time been employed for this purpose; but all such means, so far as I am aware, were of the nature of extra attachments or pieces and required the rail to be raised at least its full height or more to clear the abutting rail before the bridge could be swung.

In my construction there are no extra or added parts, and the seat is formed in the ends of the rails themselves. The invention therefore consists in the construction substantially as shown and described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a section of the end of a draw-bridge and a corresponding elevation of a section of a landing with sections of my improved rails in position thereon, the rails being locked one upon the other, as in use. Fig. 2 is a view like Fig. 1, except that the bridge-rail is shown as raised to clear the landing-rail. Fig. 3 is an enlarged perspective view

of the end of the bridge-rail, showing the bevel on the outer portion of the rail. Fig. 4 is a perspective view of the end of the landing-rail, showing the bevel from both sides inward toward the center. Fig. 5 is a side elevation showing the two rail-sections together and indicating in dotted lines the relative depth of the inclined and opposite bevels. Fig. 6 is a side elevation of the rail-sections, showing the bridge-section raised as high as need be to clear the other rail. Fig. 7 is a bottom view of the end of the bridge-rail, showing the slightly-greater bevel on the outer side where the main strain on the rail occurs.

A represents a section of a draw-bridge, and B the landing.

C is a section of the bridge-rail, and D a section of the landing-rail. This latter rail is permanently fastened its entire length in any usual way. The rail C is supported so as to be movable up and down at its outer end next to the landing a sufficient distance to clear the fixed rail D. The extent of this vertical movement is determined by the depth of the bevels at the meeting and overlapping ends of the rails and the relative depth is shown in Fig. 6. These bevels are made at an angle of about forty-five degrees to a vertical plane, and on the rail C are denoted by c and c' and on the rail D by d and d' . The bevels c and c' form a tongue with its extremity near the center of the rail, while the bevels d and d' are cut reversely to c and c' , converging toward the vertical center of the rail and forming a recess or seat for the said tongue. Both sets of bevels are cut at exactly the same relative angles, so that when one rail extremity is seated in the other they fit snugly together and are in contact at all points. This construction forms a seat in the fixed rail, in which the movable rail is held in position on both sides and makes the most perfect contact possible longitudinally between the two rails. This contact is of special advantage and value when the rail is used as a conductor in electrical railways. The depth of the V-shaped seat in the fixed rail is such that there is no possibility of the other rail crowding or working out under heavy pressure and use, so that the said seat alone is sufficient to hold the free rail in working position without other means of connection. Of

course the free or bridge rail is fastened toward its other extremity against longitudinal movement, so that it cannot be pressed out of its seat in that direction.

5 In order to show some sufficient means for raising the rail C when the bridge is to be swung, I show here a cam E, engaging the rail on its bottom near its front end. This is a well-known way and is not set up here as
10 original with me. I also show perforations in the rails for bolts, by which fish-bars or other suitable bars or strips may be secured in place across the joint and make a permanent and durable union.

15 If an overhead electric system be used, the track for the trolley might be constructed at the bridge, exactly as the rails herein shown, by merely reversing the rails or turning them upside down, and suitable levers and connections could be made whereby the rails above
20 and below might be raised and lowered by the same movement. It will be noticed, as before described, that a comparatively slight movement of the rail C is required to free it
25 from the rail D, while the peculiar construction of their ends facilitates their reseating. By making the outer bevel in each rail deeper than the other more stock is left standing beneath the outer portion of the rail, away from

the flange of the wheel, where the greater strength is required.

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

1. A rail having an inclined seat in its end, 35 V shape in cross-section, and a meeting rail constructed at its end to fit in said seat, substantially as described.

2. A railway-rail having a seat in its end inclined from top to bottom and the sides of 40 the seat flaring from about the vertical center of the rail and the meeting rail having a tongue held between the said flaring sides of the seat, substantially as described.

3. A railway-rail having a seat formed in 45 its end at an angle to a vertical plane and having the sides of the seat converging in straight lines to one side of the vertical center of the rail and the meeting rail having its end made with a beveled tongue to match 50 said seat, substantially as described.

Witness my hand to the foregoing specification this 19th day of November, 1891.

JOHN T. O'SHEA.

Witnesses:

H. T. FISHER,
NELLIE L. MCLANE.