

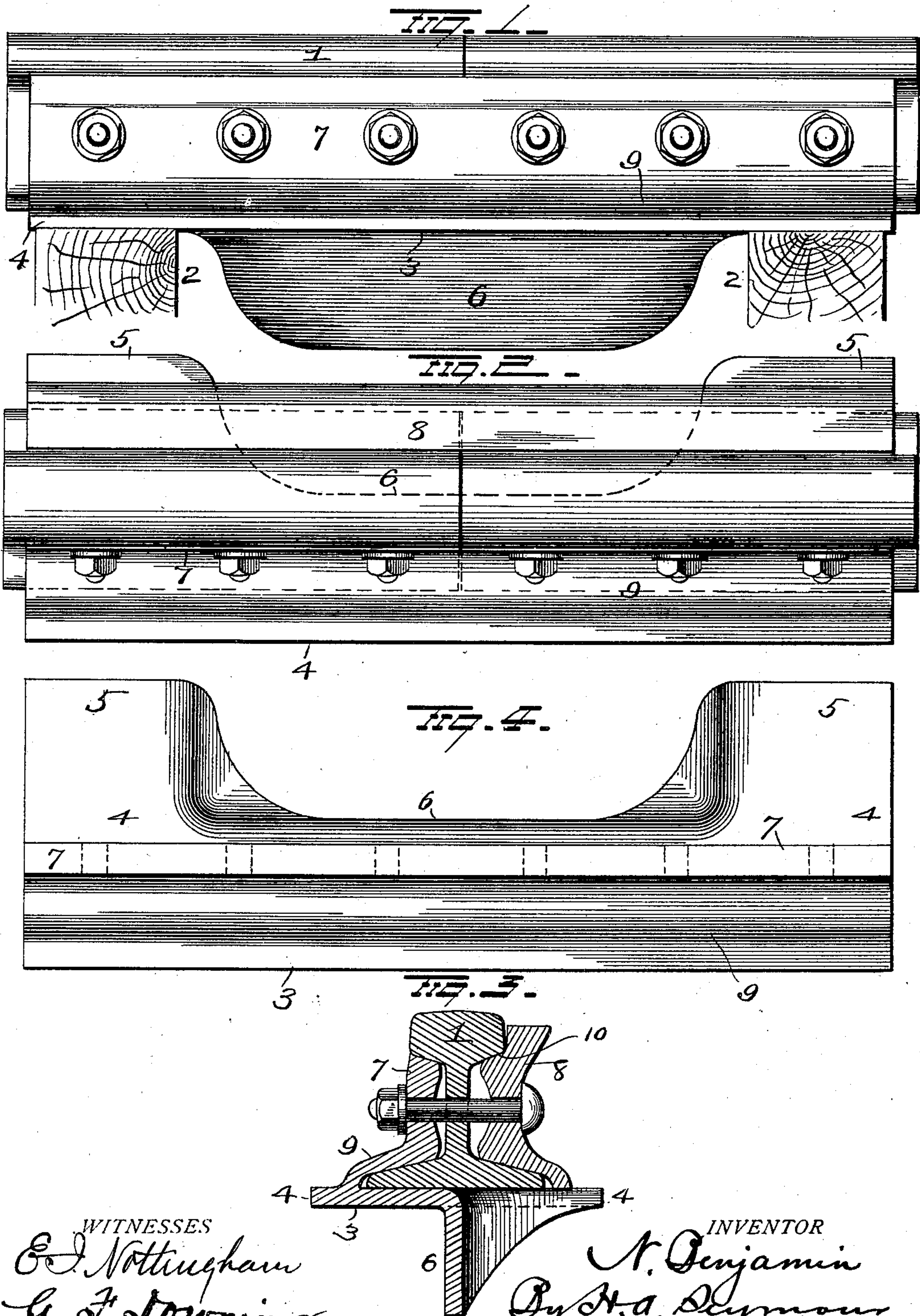
No. 685,737.

Patented Nov. 5, 1901.

N. BENJAMIN.  
RAILROAD JOINT.

(Application filed June 26, 1901.)

(No Model.)



WITNESSES  
E. J. Nottingham  
G. F. Downing

INVENTOR  
N. Benjamin  
By H. A. Seymour  
Attorney



# UNITED STATES PATENT OFFICE.

NEWTON BENJAMIN, OF ELMIRA, NEW YORK.

## RAILROAD-JOINT.

SPECIFICATION forming part of Letters Patent No. 685,737, dated November 5, 1901.

Application filed June 26, 1901. Serial No. 66,131. (No model.)

*To all whom it may concern:*

Be it known that I, NEWTON BENJAMIN, of Elmira, in the county of Chemung and State of New York, have invented certain new and useful Improvements in Railroad-Joints; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in rail-joints, the object being to so construct the joint that it acts as a trussed bridge between the ties and prevents any permanent deflection of the rails at their meeting ends and also prevents any undue movement between the parts and consequent wear on the bolts or bolt-holes.

With these ends in view my invention consists of the parts and combinations of parts, as will be more fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation of my improved rail-joint. Fig. 2 is a plan view of same. Fig. 3 is a view in transverse section through the rail and plates, and Fig. 4 is a detached view of the main plate.

1 represents the adjacent ends of two rails supported in the usual manner on ties or, if the road be a cable or underground electric, upon yokes 2.

3 is the main connecting-plate and, as shown in the drawings, comprises a base or body 4, having flattened ends 5, which latter rest solidly and flatly upon the ties or yokes 2. The central portion of the base or body 4 is bent downwardly at one side edge, forming a lower chord or truss 6, which latter rests in a vertical plane approximately under the center of the rails and immediately under the joint and stiffens the plate 3 against vertical deflection at this point. The base or body 4 is wider than the base of the rail and is provided on its inner side with an integral and upwardly-projecting portion 9, which rests over the inner section of the base of the rail and terminates in an upwardly-projecting flange or chord 7, which latter rests under and braces the head of the rails.

From the construction thus far described it will be seen that the flat base or body 4

forms a trussed support for the meeting ends of the two rails and supports the latter from below, while the integral upwardly-projecting flange or chord 7 rests on the bases of the rails and, bearing against the under side of the head of the latter, materially assists the base or body in resisting downward stresses.

The member 8 of the joint is constructed to rest at its base on the flattened ends 5 of the body-plate 4 and throughout its length on the base of the rail and is provided near its upper edge with a shoulder 10, which latter rests under the heads of the rails, while the extreme upper edge of the member or plate 8 terminates in a plane below the tread or upper surface of the rail.

The flange or chord 7 and the plate 8 are secured in position by bolts passing through the flange and plate and the intermediate rails, and base-plate or body 3 is secured to the ties by spikes, the latter also overlapping the lower edge of the plate 8 and holding it solidly on the base of the rail. With this construction the end sections of the rails rest solidly on a trussed plate, and as the plate is secured solidly to the ties and the heads of the rails braced or sustained against vertical movement of the flange or chord of the main plate on one side and a removable plate on the other it will be seen that the joint will be approximately as rigid as the remainder of rails.

It is evident that many slight changes might be resorted to in the relative arrangement of parts herein shown and described without departing from the spirit and scope of my invention. Hence I would have it understood that I do not wish to limit myself to the exact construction of parts shown and described; but,

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

1. The combination with the main or base plate forming a seat or support for the meeting ends of two rails, one side edge of said plate being bent downwardly at a point between its ends to form a truss, the latter resting in the vertical plane of the webs of the rails, the opposite side edge of said plate being bent upwardly and terminating against the under side of the head of the rail, and an

independent plate resting against the outside of the rails and secured thereto and to the main plate.

2. The rail-joint plate made in a single piece  
5 having a flat upper face forming a seat for the meeting ends of two rails, said single plate provided with a depending truss or brace the latter formed by bending down one edge of the plate at a point between its ends, said  
:o truss being located about coincident with the longitudinal axis of the plate, the opposite

edge of said single plate being bent upwardly to engage the under side of the heads of the rails.

In testimony whereof I have signed this 15 specification in the presence of two subscribing witnesses.

NEWTON BENJAMIN.

Witnesses:

A. W. BRIGHT,

W. CLARENCE DUVALL.