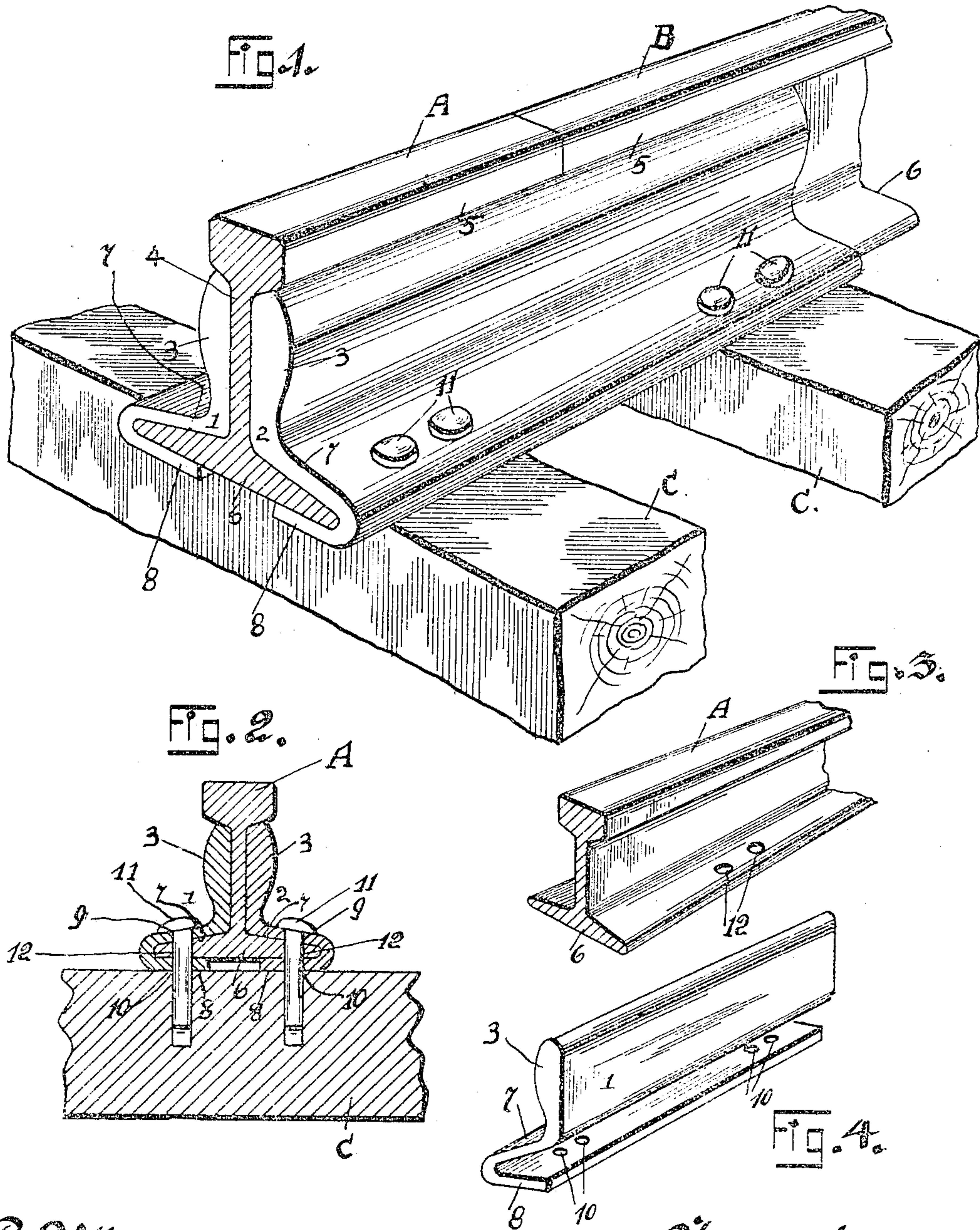


No. 787,220.

PATENTED APR. 11, 1905.

J. T. QUALK,  
RAIL JOINT.

APPLICATION FILED AUG. 30, 1904.



Witnesses:  
J. H. Butler  
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# UNITED STATES PATENT OFFICE.

JORDAN T. QUALK, OF DUQUESNE, PENNSYLVANIA.

## RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 787,220, dated April 11, 1905.

Application filed August 30, 1904. Serial No. 222,696.

*To all whom it may concern:*

Be it known that I, JORDAN T. QUALK, a citizen of the United States of America, residing at Duquesne, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention has relation to certain new and useful improvements in rail-joints, and has for its object the provision of novel means for holding two sections of rails in engagement with each other, whereby it will be impossible for the same to become displaced after they have once been secured together.

Another object of this invention is to provide a novel form of fish-plate which is placed in engagement with the confronting ends of two rail-sections and secured to the ties supporting said rails, and I have provided a novel way of securing the ordinary spikes in engagement with said fish-plates and rails, whereby the sections of rails will be firmly held upon the ties.

Briefly described, my invention comprises two fish-plates which are adapted to be placed upon the confronting ends of two rails, said fish-plates being formed with reinforcing portions and are adapted to be bent inwardly under the base of the rails to support the same. I have provided the fish-plates with apertures and the base portions of each rail with apertures corresponding to the apertures of the fish-plates, and in said apertures the ordinary and well-known type of spike is adapted to be placed to firmly hold the rails in engagement with the road-bed.

The above construction will be hereinafter more fully described in detail and then specifically pointed out in the claim.

Referring to the drawings, Figure 1 is a perspective view of my improved rail-joint. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a detail perspective view of one end of a rail constructed in accordance with my invention, and Fig. 4 is a detail perspective view of one of the fish-plates.

Throughout the several views of the drawings accompanying this application like ref-

erence characters designate corresponding parts, and the reference characters A and B designate confronting ends of two rail-sections which are to be joined together, and these rails are supported upon ties C. The fish-plates 1 and 2, which I employ to connect said rails together, are made of a suitable material and are so formed that they may be rolled, and in forming said fish-plates I provide the web portions 3 3 thereof of a heavier nature than the remainder of the fish-plates, these web portions 3 3 forming reinforcements which are adapted to support the web portion 4 of the rails and the underneath surface 5 of the treads of said rails. The fish-plates are so formed that they will engage the top of the base 6 of the rail, as indicated at 7, and the edges of said fish-plates are bent under the base of the rail, as indicated at 8 8, this bent-under portion extending within a short distance of the center of the base of said rail. The portion 7 of the fish-plate and the bent-under portion 8 are provided with a plurality of apertures 9 and 10, said apertures being formed in vertical alinement with each other, whereby the spike 11 may be placed therein, and I have provided the sides of the base of the rail with apertures 12 to permit of the securing of the spikes within the ties C.

By the above construction it will be seen that when the fish-plates have been placed in engagement with the rails A and B it will be impossible after the spikes have been driven through the apertures 9, 12, and 10 for the rails to become separated. By passing the spikes through the portion 7 of the fish-plate, the base of the rails, and bent portion 8 of the fish-plates it will be impossible for the rails to move independently of the fish-plates, and by the provision of reinforcements of the web portion 4 of the rail the treads thereof will be supported and any lateral movement independently of the base of said rails prevented.

By the novel form of my improved fish-plates it will be possible to support the joint of the rails between the ties C, owing to the fact that the bent-under portion 8 of the fish-plates will form a support for the base 6 of



each rail intermediate the ties, and the ends of said rails will be prevented from moving upon the fish-plates or the ties by the ends of said spikes engaging in the ties C.

5 While I have herein shown the preferred manner of constructing the fish-plates and the preferred number of openings through which the spikes are placed, I do not care to limit myself to this specific number nor the exact  
10 construction and form of fish-plate shown, but may vary the same as will be permissible by the appended claim.

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

The combination with a railway-rail, of two fish-plates, said fish-plates being of the same form, the fish-plates being adapted to closely embrace the web of the rail, and being imperforate at that portion adjacent the web of the  
20 rail, said fish-plates extending over and being

bent under the bases of the rails, that portion of each fish-plate beneath the rails being of the same thickness and the adjacent edges thereof being spaced apart and being formed  
25 with apertures coinciding with apertures in the bases of the rails to receive spikes, the web portion of the fish-plates adjacent the rails being formed of gradually-increasing thickness from a point opposite the juncture  
30 of the web and base of the rail, and from a point adjacent the head of the rail to the middle of the fish-plate and forming reinforcements adapted to support the web portions of the rails.  
35

In testimony whereof I affix my signature in the presence of two witnesses.

JORDAN T. QUALK.

Witnesses:

H. C. EVERT,

P. A. KILLGALLON.