

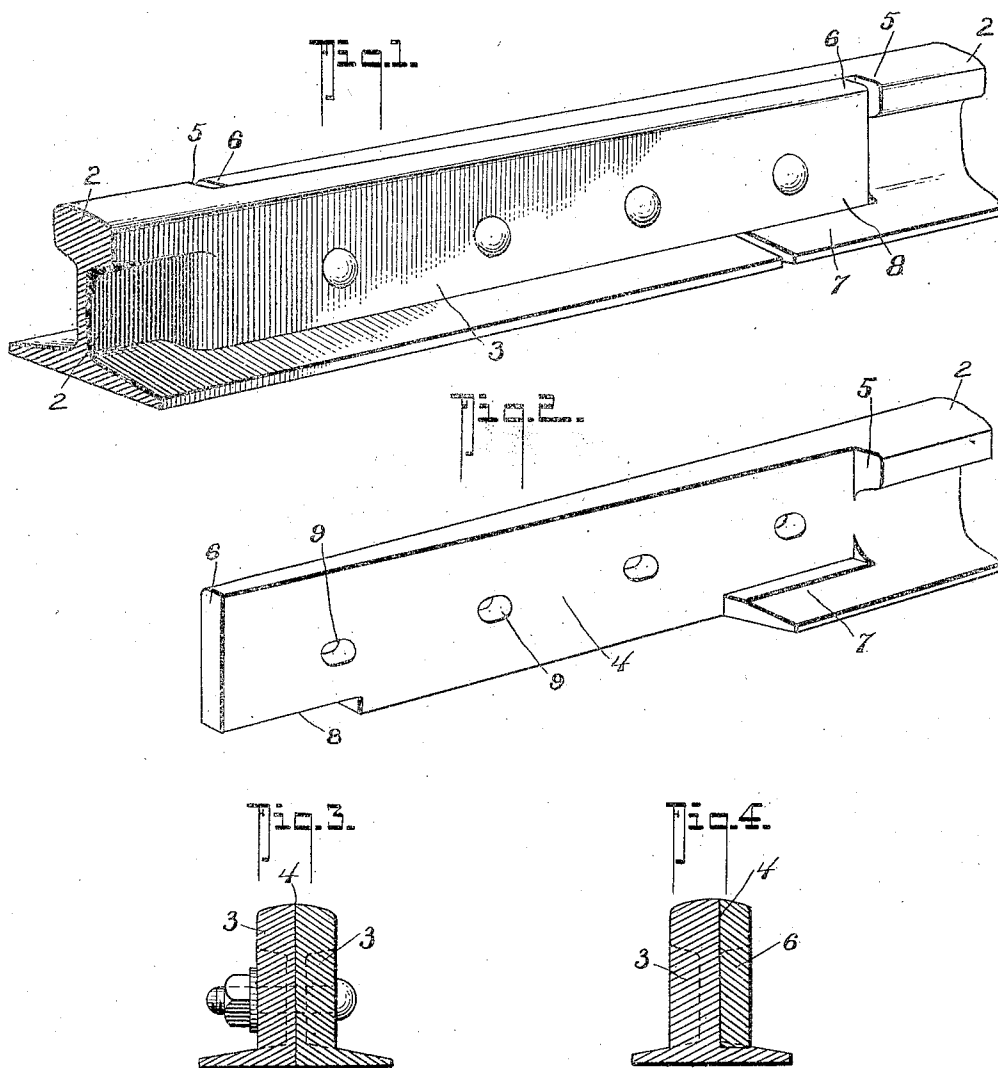
No. 829,255.

PATENTED AUG. 21, 1906.

T. BROOKFIELD.

RAIL JOINT.

APPLICATION FILED JUNE 7, 1906.



WITNESSES:

John T. Schrott
Ella Mae Cornick

INVENTOR

Theodore Brookfield

BY

Fred J. Dietrich
ATTORNEY.

UNITED STATES PATENT OFFICE.

THEODORE BROOKFIELD, OF KAMLOOPS, CANADA.

RAIL-JOINT.

No. 829,255.

Specification of Letters Patent.

Patented Aug. 21, 1906.

Application filed June 7, 1906. Serial No. 320,600.

To all whom it may concern:

Be it known that I, THEODORE BROOKFIELD, a citizen of the Dominion of Canada, residing at the city of Kamloops, in the Province of British Columbia, Canada, have invented a new and useful Rail-Joint, of which the following is a specification.

This invention relates to an improved rail-joint designed to offer a strong self-sustaining resistance against downward flexure of the rail ends without the use of fish-plates and to offer an uninterrupted rolling-surface past the space between the rail ends.

The ordinary rail-joint spliced with fish-plates is under the most favorable conditions a weak one, and as its efficiency depends entirely on the tightness with which the fish-plates engage the under sides of the rail-head and the upper sides of the flanges if the fish-plate bolts are allowed to become slack the sustaining resistance of the joint is impaired and the rail ends work up and down under the traffic. This causes rapid destruction of the rail ends and injury to the rolling-stock, besides which the necessity of constantly tightening the bolts imposes a constant and considerable expense on the permanent-way department. These faults I have endeavored to remove in the joint which is the subject of this application, and although the adoption of it will impose a greater initial cost in the manufacture of the rails such greater cost will be more than compensated for in the reduced cost of track-laying, in the reduced cost of maintenance of both permanent way and rolling-stock, and in the immunity from accident, due to the greater strength and safety of the joint.

The particular construction of the joint and the advantages of such construction are fully set forth in the course of the following specification, reference being made to the drawings, by which it is accompanied.

Figure 1 is a perspective view of the joint complete, the rails being slightly drawn apart; Fig. 2, a similar view of the splice of one rail end; Fig. 3, a cross-section through the middle of the joint, and Fig. 4 a similar view on the end seat of the splice.

In the drawings the normal rail-section is represented by 2. On the opposite side of each end of the rail and for a distance extending backward beyond the length of the splice to be described the web of the rail is thickened, as at 3, between rail head and flange to reinforce the rail-section throughout the

splice. On the opposite side of the end of each rail is formed a splice 4 about twenty-four inches long and tapered an amount about equal to the thickness of the rail-web, so that at the butt of the splice the head of the rail is shouldered, as at 5, to the face of the web on that side, and the thickness of the tip 6 is the same in amount. About six inches beyond the shoulder 5 at the butt of the splice the flange of the rail is retained, as at 7, to afford a resting-seat for the tip 6 of the splice of the other rail, and the same distance from the tip 6 the depth of the rail is reduced and the flange portion removed, as at 8, so that it may rest on the retained flange portion of the other rail. A strong self-sustaining reversible splice is thus constructed, requiring no fish-plates or bolts to enable it to withstand a greater downward load than the rail itself and affording a continuous rolling-surface past the ends of the rail.

Elongated holes 9 are provided for the bolts that hold the joint together. It must be observed, however, that the strength of the joint does not depend on the bolts, but on the mutual support afforded to each rail end resting on the flange of the other and on the ample reinforcement of the sections of the splice, such reinforcement not only including the thickening of the web to the width of the rail-head on the side opposite to the splice-face, but the retention of the flange on that side, save where at the tip the depth is reduced to enable it to rest on the flange of the other rail.

Having now particularly described my invention, I declare that what I claim as new, and desire to be protected in by Letters Patent, is—

1. A rail-joint comprising an elongated tapered splice extending vertically the full depth of the rail, the reinforcement of the rail-section at the splice portion by the thickening of the web of the rail opposite to the splice-face, a resting-seat on the flange of each rail adjacent to the butt of the splice, and a corresponding reduction of depth at the tips of the splice to rest on such flange-seats.

2. A rail-joint comprising an elongated splice between the rail ends the contacting plane of which extends vertically the full depth of the rail and longitudinally tapers from one side of the rail-web to the other, a resting-seat on the flange of each rail adjacent to the butt of the splice and a corre-

splicing reduction of depth at the tips of the splice to rest on such flange-seats.

3. A rail-joint comprising an elongated tapered splice extending vertically the full depth of the rail, the reinforcement of the rail-section at the splice by the thickening of the web to the width of the rail-head, the retention of the flange on the splice-face side of the rail a short distance past the butt of the splice of each rail toward the tip to afford a seat for the tip of the splice of the other rail of the joint, the removal of the flange and re-

duction of the depth of the tip of the splice where it is designed to rest on the flange of the other rail, and means for holding the rails together at the splice. 15

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

THEODORE BROOKFIELD.

In presence of—

FRED. J. FULTON,
HENRY L. MORLEY.