

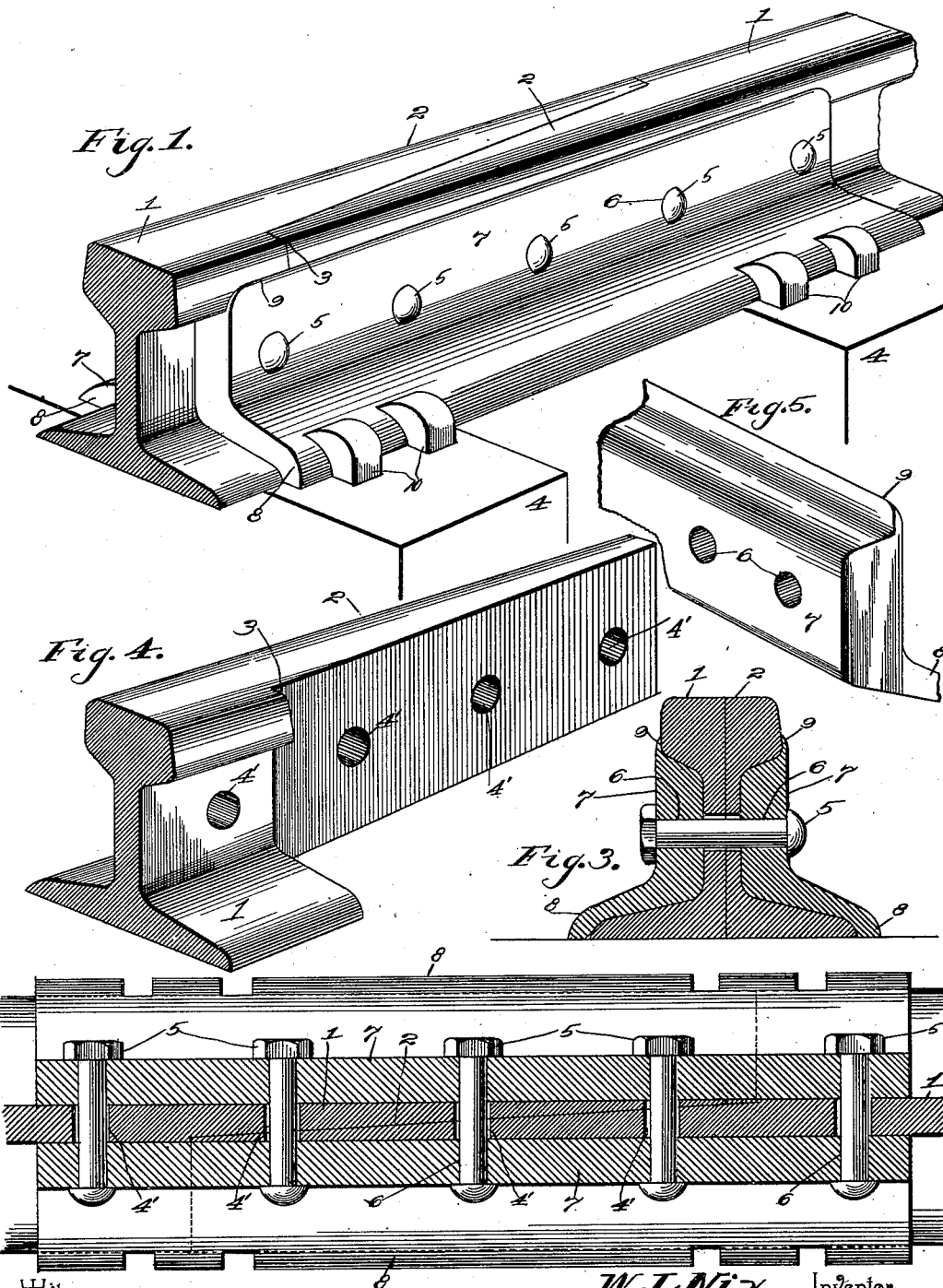
No. 676,338.

Patented June 11, 1901.

W. J. NIX.
RAIL JOINT.

(Application filed Feb. 20, 1901.)

(No Model.)



Witnesses

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W. J. Nix

W. J. Nix, Inventor.

Fig. 2. By *C. A. Snow & Co.*
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UNITED STATES PATENT OFFICE.

WILLIAM J. NIX, OF FORSYTH, MONTANA.

RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 676,338, dated June 11, 1901.

Application filed February 20, 1901. Serial No. 48,157. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. NIX, a citizen of the United States, residing at Forsyth, in the county of Custer and State of Montana, have invented a new and useful Rail-Joint, of which the following is a specification.

The invention relates to improvements in rail-joints.

The object of the present invention is to improve the construction of rail-joints and to provide a simple and comparatively inexpensive one which will be strong and durable and in which the spikes for securing the rails to the cross-ties will cooperate with the transverse bolts for holding the ends of the rails together.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claim hereto appended.

In the drawings, Figure 1 is a perspective view of a rail-joint constructed in accordance with this invention. Fig. 2 is a horizontal sectional view. Fig. 3 is a transverse sectional view. Fig. 4 is a detail perspective view of a portion of one of the rails. Fig. 5 is a similar view of a portion of one of the fish-plates.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

11 designate a pair of rails having their adjacent ends recessed and overlapped, and the overlapping portions 2 are tapered, the tapered portion of one rail fitting in the recess of the other rail and entirely filling the same and forming practically a continuous solid rail. The outer end of the tapered portion is squared to form a shoulder to fit against the shoulder 3 at the inner end of the recess, and the said tapered overlapped portions are designed to be of sufficient length to extend entirely across the space between two cross-ties 4, as clearly illustrated in Fig. 1 of the accompanying drawings, whereby the ends of both of the rails will be firmly supported and prevented from sagging. The webs of the rails are provided with elongated or elliptical openings 4' for the reception of transverse bolts 5, which pass through circular perforations 6 of fish-plates 7, and the elliptical or

elongated openings of the rails admit of the expansion and contraction of the parts without injuring the rail-joint and without loosening the rails from the cross-ties. The fish-plates, which are located at opposite sides of the rails in the usual manner, conform to the configuration of the same and are provided at their lower edges with downwardly-curved extensions 8, which have their lower faces arranged in the same plane as the lower faces of the rails to rest upon the cross-ties. The fish-plates, which are thickened at the webs of the rails, are provided with upwardly-extending longitudinal flanges 9, extending above the lower faces of the heads of the rails and supporting the said heads at the sides thereof without offering any obstruction to the flanges of the wheels of a train. The fish-plates are secured to the cross-ties by means of spikes 10, arranged in pairs at the ends of the fish-plates and extending inward over the bottom flanges of the rails, and should the transverse bolts become broken the spikes will serve to hold the overlapped ends of the rails together. The spikes by this arrangement will assist the transverse fastening devices in holding the overlapped ends of the rails together, and the liability of the bolts to become broken is reduced to a minimum.

It will be seen that the rail-joint is exceedingly simple and inexpensive in construction, that the overlapped ends of the rails are supported at each end of the joint by the cross-ties, and that the fish-plates extend entirely across the space between the cross-ties and are engaged by spikes arranged in pairs. It will also be apparent that a rail-joint of great strength is thereby produced and that the treads of the rails form practically a continuous unbroken surface, so that there will be no jar or hammering of the wheels of the train when passing over the joint and that the ends of the rails will not be broken down by the said wheels.

What I claim is—

In a rail-joint, the combination of a pair of rails provided with reduced tapered overlapping ends forming a continuous solid rail and being of a length to extend across the space between two cross-ties, the ends of the rails being squared and fitting against shoulders formed by reducing the rails, a pair of

fish-plates conforming to the configuration of
the rails and provided with upright thickened
portions to fit against the webs of the said
rails and provided at their tops with upwardly-
5 extending longitudinal flanges embracing the
heads of the rails at opposite sides of the same,
said fish-plates being provided with extended
lower portions having horizontal lower edges
arranged in the same plane as the lower faces
10 of the rails and adapted to rest upon the cross-

ties, and transverse fastening devices connect-
ing the fish-plates, substantially as described.

In testimony that I claim the foregoing as
my own I have hereto affixed my signature in
the presence of two witnesses.

WILLIAM J. NIX.

Witnesses:

JOHN C. LYNDEN,
E. E. POWELL.