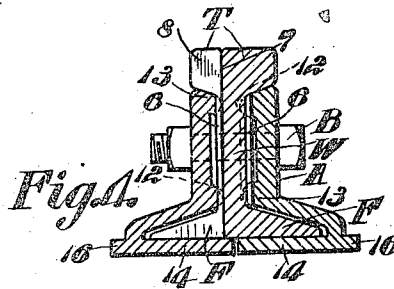
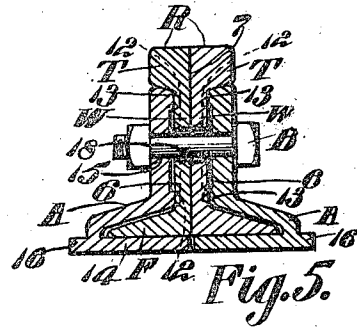
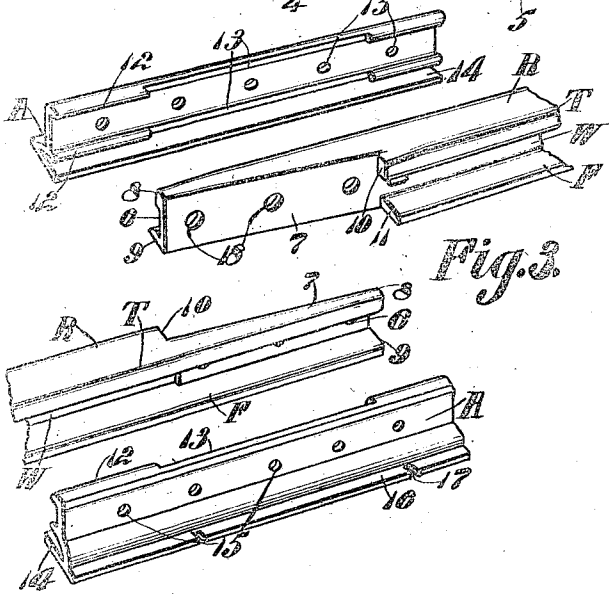
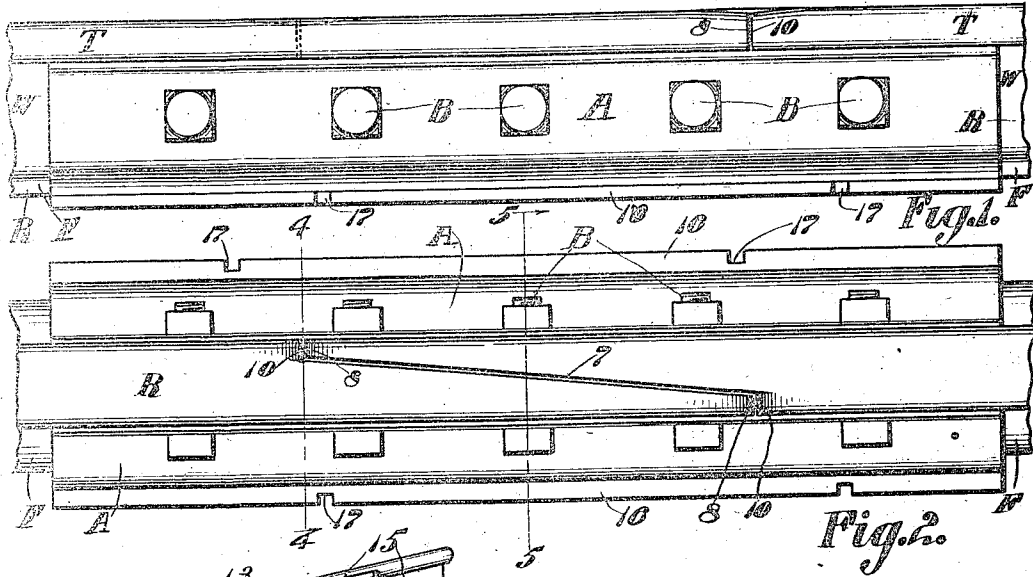


J. W. REYNOLDS.
RAIL JOINT.
APPLICATION FILED APR. 23, 1912

1,033,937.

Patented July 30, 1912.



Witnesses

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UNITED STATES PATENT OFFICE.

JAMES W. REYNOLDS, OF CHESTER, NEBRASKA.

RAIL-JOINT.

1,033,937.

Specification of Letters Patent.

Patented July 30, 1912.

Application filed April 23, 1912. Serial No. 692,642.

To all whom it may concern:

Be it known that I, JAMES W. REYNOLDS, a citizen of the United States, residing at Chester, in the county of Thayer and State of Nebraska, have invented a new and useful Rail-Joint, of which the following is a specification.

This invention relates to rail joints, and has for its object to provide improved means for joining or connecting the ends of adjoining rails, so as to provide a substantial joint.

Another object of the present invention is to provide a rail joint wherein the rails may have a longitudinal movement relative to each other in order to compensate for expansion or contraction of the rails.

With the foregoing and other objects in view, which will be apparent as the invention is better understood, this invention resides in the novel construction and combination of parts hereinafter set forth and particularly pointed out in the appended claims, reference being had to the accompanying drawings, wherein the invention is illustrated and wherein,—

Figure 1 is a side elevation of the rail joint. Fig. 2 is a plan view thereof. Fig. 3 is a perspective view of the various parts of the rail joint separated. Figs. 4 and 5 are sectional views taken on the lines 4—4 and 5—5 of Fig. 2, respectively.

Referring in detail to the drawings, wherein similar reference characters have been employed to denote corresponding parts, the adjoining rails are designated by the letter R, each of the rails consisting of the usual tread T, web W, and the base flange F. The adjoining rails have their ends cut diagonally as designated by the numeral 7, the ends of the diagonal or oblique portions 7 extending beyond or even with the outer faces of the webs W, and the treads T and the base flanges F being cut laterally to the edges thereof, whereby the projecting ends 8 and 10 of the treads T and the flanges F abut against the shoulders 10 and 11 of the opposite treads and flanges. In this manner, the adjoining rails are scarfed so that the various surfaces of the tread, web and flanges are flush, the various corners or edges being rounded in order to prevent the action of

the wheels over the tread from battering or otherwise injuring the corners formed by the scarf.

The overlapped portions of the webs W are provided with outer bosses or enlargements 3, these enlargements being co-extensive with the scarf and extending between the flanges and treads of the rails.

Angle iron fish plates A are provided for attaching the ends of the rails together, and these fish plates are provided with upper and lower longitudinal ribs 12 along the inner sides of their upright portions. The ribs 12 are provided intermediate their ends with cut away portions 13, the ribs being adapted to contact with the webs of the rails at the end portions of the ribs and the cut-away portions 13 being adapted to receive the bosses 6. The cut-away portions 13 are longer than the bosses 6 in order to permit the rails to move longitudinally within the fish plates without disturbing the position of the fish plates relative to each other. In this manner, the upright portions of the fish plates between the said ribs are spaced from the bosses 6 as well as the webs of the rails, whereby the ribs contact solely with the webs of the rails and with the bosses 6. The upright portions of the fish plates A also fit tightly in under the treads of the rails and the outer flanges of the fish plates fit over the flanges of the rails, as usual, the inwardly extending portions 14 being provided for passing under the flanges of the rails. The fish plates are also provided with outer flanges 16 in the plane of the portions 14, these flanges being provided with spike-receiving notches 17.

The fish plates are provided with bolt openings 15 which are adapted to register with enlarged bolt openings 18 through the webs of the rail, and the bolts B are passed through the respective openings 15 and 18 in order to clamp the fish plates in position against the rails.

In practice, the fish plates A are seated on the ties and are secured thereto by means of spikes engaging in the notches 17 of the flanges 16, which will prevent the longitudinal or other movement of the fish plates relative to the ties. The bosses 6 being shorter than the cut-away portions 13 will permit the rails to move longitudinally rela-

tive to each other and to the fish plates due to the contraction and expansion of the rails, but it will be noted that when the adjoining ends of the rails are clamped together by the fish plates, the bosses 6 being received within the cut-away portions 13 of the ribs 12 will prevent the rails from being drawn out of the fish plates. It will also be noted that the upright portions of the fish plates between the ribs 12 do not contact either with the webs of the rails or the bosses 6 so as to provide the proper clamping action.

A rail joint constructed in accordance with the present invention will be substantial so as to permit the car wheels to pass thereover smoothly, the present joint also being noiseless. This joint may be readily assembled or taken apart so as to connect or liberate the rails, and this rail joint is also comparatively simple in construction, as well as being efficient in its use.

It is understood that the various details are susceptible of alterations in their dimensions, proportions, and the like, within the scope of the appended claims without departing from the spirit of the invention, and the present joint is also applicable for various sizes and forms of rails, as will be apparent.

The treads of the rails are inclined above the shoulders 10 and the tips 8, so that the wheels of the locomotive may pass readily over the joints. It will also be noted that a number of the bolts B pass through the overlapped portions of the webs of the rails and through the corresponding bosses 6 so as to clamp the overlapped portions of the webs

together and to hold the cut away portions 13 of the ribs 12 in contact with the bosses 6.

Having described the invention, what is claimed as new is:—

1. A rail joint wherein the adjoining rails are scarfed, the overlapped portions of the webs having outer bosses, fish plates having ribs contacting with the webs and the ribs having cut-away portions receiving the bosses, and securing means passing through the fish plates and the webs of the rails.

2. A rail joint wherein the adjoining rails are scarfed, the overlapped portions of the web having outer bosses co-extensive with the scarf, fish-plates having ribs contacting with the webs and the ribs having cut-away portions receiving the bosses, and securing members passing through the fish plates and webs of the rails.

3. A rail joint wherein the adjoining rails are scarfed, the overlapped portions of the web having outer bosses co-extensive with the scarf and extending between the treads and the flanges of the rails, fish plates having upper and lower longitudinal ribs along their inner sides and contacting with the webs of the rails, the ribs having cut-away portions receiving the bosses and longer than the bosses, and bolts passed through the fish plates and the webs of the rails.

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

JAMES W. REYNOLDS.

Witnesses:

FRED. R. LEONARD,
WILLIAM J. LEONARD.