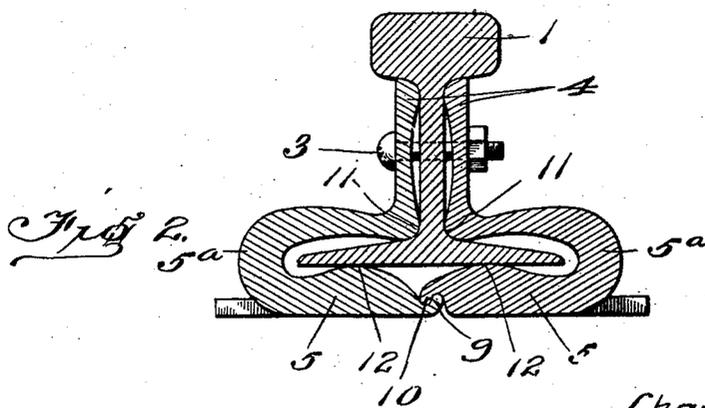
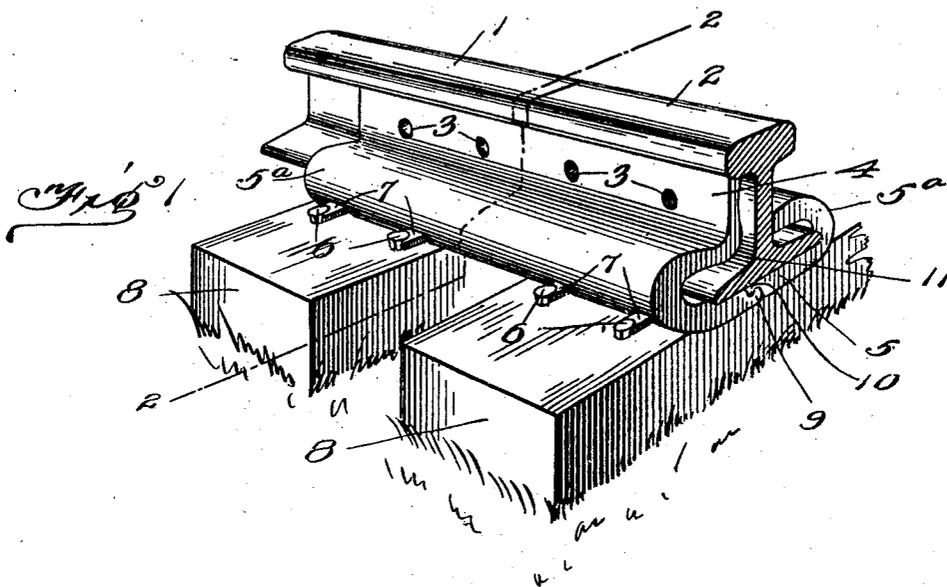


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 RAIL JOINT.
 APPLICATION FILED DEC. 15, 1908.

937,740.

Patented Oct. 19, 1909.



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RAIL-JOINT.

937,740.

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To all whom it may concern:

Be it known that I, CHARLES PARSONS, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification.

This invention relates to rail joints, and has for its object to provide an improved rail joint in which the fish or side plates are formed integral with chair plates on which the rails rest, with means for increasing the grip of the plates against the rail, increase of load being followed by an increased pressure or grip of the plates on the rail, this grip being most effective on the base of the rail.

The invention is illustrated in the accompanying drawings in which—

Figure 1 is a perspective view of the joint. Fig. 2 is a vertical cross section.

Referring specifically to the drawings, the rail ends are indicated at 1 and 2. The fish or side plates 4 are made integral with the chair or bottom plates 5, the lower edges of the fish plates being connected to the chair plates by means of a thickened, curved portion 5^a which is shaped or bent to extend around the edge of the base of the rail, a recess being formed in which the base of the rail fits. The parts are attached to the rails by the usual bolts 3.

The chair plates 5 are shaped on the upper side to produce a longitudinally extending raised portion 12 which projects above the remainder of the plates and forms a contact line on which the rail rests, said lines of contact being about midway between the edge of the rail base and the middle thereof. At the lower edge the fish plates are enlarged or shaped to form an inwardly projecting rib or line of contact indicated at 11, which contact with the rail at the angle where the web joins the base, pressing inwardly and downwardly upon the top of the base. The two sections of the joint are united under the rail by means of an upwardly projecting lip or hook 9 formed along the edge of one plate which is engaged by a downwardly projecting lip or hook 10 formed on the edge of the other plate, and adapted to prevent lateral separation of the parts. The upper edges of the fish plates bear under the head of the rail. The two parts of the joint thus formed have a certain amount of spring, and originally are so

rolled or shaped that the pressure of the bolts 3 is necessary to draw the fish plates together against the web of the rail. When they are so drawn together the stress causes the contact points 11 to bear downwardly and inwardly at the base of the web of the rail, and the contact points 12 bear upwardly, the parts being otherwise out of contact with the base of the rail. This produces a joint or grip on the rail base. When the pressure on the rail is increased, as by a train passing over the same, the force exerted downwardly on the points 12 tends to turn the upper parts of the joint inwardly, increasing the pressure along the points 11 and causing the fish plates to increase their grip on the ends of the rails; and the grip increases as the pressure increases, which is decidedly advantageous for the purpose of holding the joints securely and preventing looseness or pounding at the joint. The parts are attached to the ties 8 by means of spikes 6 engaging lips 7 projecting from the outer edge of the chair plates or parts.

The connection between the parts or sections formed by the hooks 9 and 10 is sufficiently flexible to allow the slight turning action which in consequence of the leverage causes the fish plates to bind tightly against the rail ends when a train is passing thereover. The joint also has the advantage that the parts can be separated by removing the bolts 3 and the spikes and lifting the rails slightly and turning the sections to disengage the hooks, the recesses in which the rail base fits being sufficiently large to permit this action.

I claim:

1. A rail joint comprising two separable sections each consisting of a fish-plate and a chair-plate integral therewith, the chair plates being flexibly connected under the rail, and each having a longitudinal rib on which the rail rests, said ribs being spaced from each other, and a portion extending over and bearing upon the top of the rail base and connected to the fish-plate.

2. A rail-joint comprising two sections connected together under the rail base, each consisting of a part forming a fish-plate, a part forming a chair-plate, and a connecting part extending from the lower edge of the fish-plate to the outer edge of the chair plate, the chair plate having a longitudinal rib on the top and the connecting part bearing against the rail base at its angle with

the web of the rail, the line of contact of the rib being outside of the line of said bearing.

3. A rail joint comprising two sections each consisting of a fish plate and a chair plate integral therewith, the chair plates 5 having hooks engaging each other under the rail base and each having a longitudinal rib on the top forming a contact line on which the rail base rests, the fish plates having ribs 10 contacting with the top of the rail base adjacent the web of the rail.

4. A rail joint comprising two sections, connected together under the rail base, each consisting of a fish plate bearing at its lower 15 edge on the rail base, and a lower part inte-

gral with the fish plate and connected to the lower edge thereof, said lower part being thickened and curved around the outer edge of the rail base and extended under said base to form a chair plate, forming a recess to receive the rail base loosely, the chair plates having spaced ribs extending along the top thereof on which the rail base rests. 20

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

CHARLES PARSONS.

Witnesses:

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