

W. M. SAMPLE.
RAIL JOINT.
APPLICATION FILED JULY 15, 1911.

1,008,072.

Patented Nov. 7, 1911.

FIG. 1

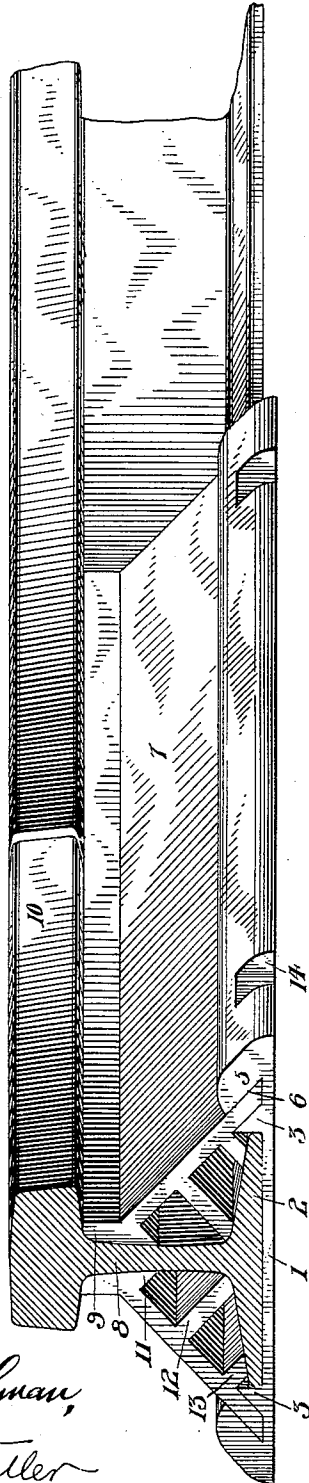
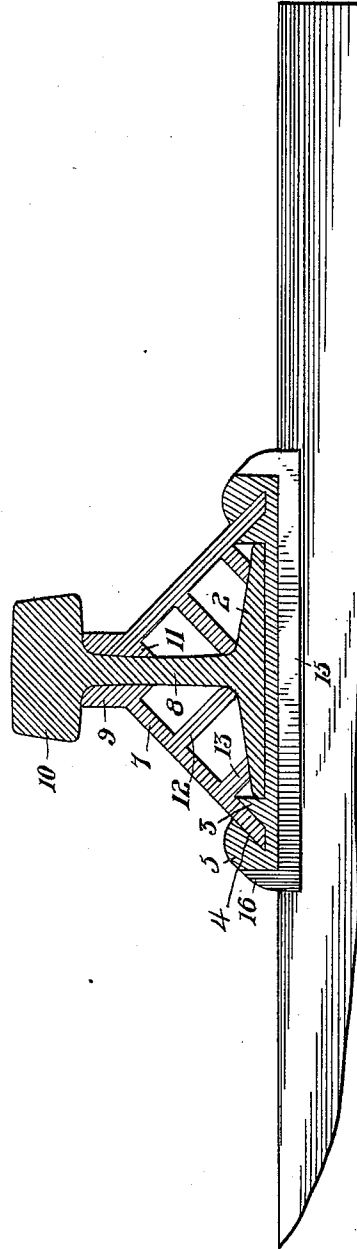


FIG. 2



WITNESSES:

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RAIL-JOINT.

1,008,072.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM MILLER SAMPLE, a citizen of the United States of America, residing at Wilkinsburg, 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 drawing.

This invention relates to rail joints, and the objects of my invention are to provide positive and reliable means, in a manner as will be hereinafter set forth, for preventing lateral and vertical displacement of the confronting ends of two rails, and to obviate the necessity of using bolts and nuts as a fastening medium for the splice bars of a rail joint.

Other objects of my invention are to provide practically a continuous tread for rolling stock, thereby eliminating the jarring and bumping experienced when passing over a joint, also the breaking down of the heads of confronting rails, and to provide a rail joint that can be installed without the use of skilled labor.

Further objects of my invention are to provide novel means for thoroughly bracing the webs and base flanges of rails at such points most liable to weaken or yield by the heavy weight of rolling stock, and to accomplish the above results by a rail chair that is simple in construction, durable, applicable to the present type of sleeper or tie, and highly efficient for mountainous sections of railroads.

With the above and other objects in view, the invention resides in the novel construction and arrangement of parts to be hereinafter specifically described and then claimed.

Reference will now be had to the drawing, wherein:—

Figure 1 is a perspective view of a rail joint in accordance with this invention; and Fig. 2 is a cross sectional view of the rail joint illustrating a reinforcement for the chair.

A joint in accordance with this invention comprises a rail plate 1 of a sufficient length to span or bridge two ties or sleepers. The rail plate is of a greater width than the base flanges 2 of the rails supported by said plate, and said base flanges are correctly positioned upon the rail plate 1 by longitudinal ribs 3, extending from end to end of said plate. These ribs have the vertical inner walls

thereof engaging the edges of the flanges 2. The outer walls of the ribs 3 are inclined and in parallelism with the inclined inner wall 4 of longitudinal angularly disposed flanges 5 carried by the edges of the rail plate 1 and extending from one end thereof to the opposite end. The formation of the ribs 3 and the flanges 5 provide longitudinal slots 6, and extending into these slots are the lower edges of inclined splice bars 7 corresponding in length to the rail plate 1, said splice bars being positioned approximately at 45 degrees to the rail plate 1 and the webs of the rails, representing the hypotenuse of a right angular triangle with the rail plate 1 as a base, and the webs 8 of the rails as the altitude. The upper edges of the inclined splice bars are provided with vertical enlargements 9 adapted to engage the webs 8 directly beneath the heads 10 of the rail. The enlargements 9 have fillets 11, and the combined depth of these fillets and the enlargements is approximately half the depth of the webs of the rails. In consequence of this construction, the webs 8 and the heads 10 will be thoroughly braced and prevented from cracking or shearing at the juncture of the heads with the webs.

To further brace the rails, particularly at the juncture of the webs 8 and the base flanges 2, the inclined splice bars 7 have the inner sides thereof provided with angularly disposed braces 12 and 13, the former engaging the base flanges 2 at the juncture of the webs 8, and the latter engaging the base flanges 2 adjacent to the longitudinal ribs 3. Braces 12 and 13 are arranged in parallelism with the uppermost face of the brace 12 and in parallelism with the lower face of the fillets 11. The braces 12 and 13 constitute locks for maintaining the enlargements 9 in snug engagement with the lower face of the head of the rail; or, in other words, when the braces are in engagement with the flanges 2, the splice bars are prevented from vertical displacements.

The advantage of this construction is that the splice bars 7 can be rolled and produced at a minimum cost. The flanges 5 have the outer sides thereof provided with vertical notches or grooves 14 adjacent to the ends, to receive spikes or similar fastening means (not shown), employed for securing the rail plate to ties or sleepers.

In Fig. 2 of the drawings, there is illustrated a slight modification of the invention,

wherein the rail plate, intermediate the ends thereof, has an integral strength reinforcing member 15 that is arranged transversely of the rail plate with the ends 16 thereof bracing the flanges 5. This strength reinforcement 5 relieves the tie plate of all stresses and strains due to heavy rolling stock passing over the same, the reinforcement adding rigidity to the chair, and in some instances it 10 can be made of a sufficient size to serve functionally as a spacer block between the ties or sleepers supporting the rail plate.

The inclined splice bars are prevented from becoming accidentally displaced by the 15 angularity of the slots 6, and after the rails have been placed in position, the splice bars can be easily moved into the slot 6 and into engagement with the rails.

While in the drawing there are illustrated 20 the preferred embodiments of the invention, it is to be understood that the structural elements can be varied or changed as to the size, shape, and manner of assemblage without departing from the scope of the invention. 25

What I claim is:—

A rail joint comprising a rail chair provided on its upper face with spaced longitudinally-extending flanges and ribs, the inner faces of said ribs being vertical and 30 abutting against the longitudinal edges of the rail base flanges, the outer faces of the ribs and the inner faces of the rail chair flanges being at an angle of substantially 45° to the plane of the rail chair, and splice 35 bars having their lower edges received in the spaces between said ribs and rail chair flanges, said splice bars having inwardly-extending locking braces which project from the splice bars at right angles thereto and 40 engage the base flanges of the rails at an angle of substantially 45° with respect to the plane of the rail chair thereby preventing vertical displacement of the splice bar.

In testimony whereof I affix my signature 45 in the presence of two witnesses.

WILLIAM MILLER SAMPLE.

Witnesses:

MAX H. SROLOVITZ,
CHRISTINA T. HOOD.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."