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RAIL JOINT.

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1,014,101.

Patented Jan. 9, 1912.

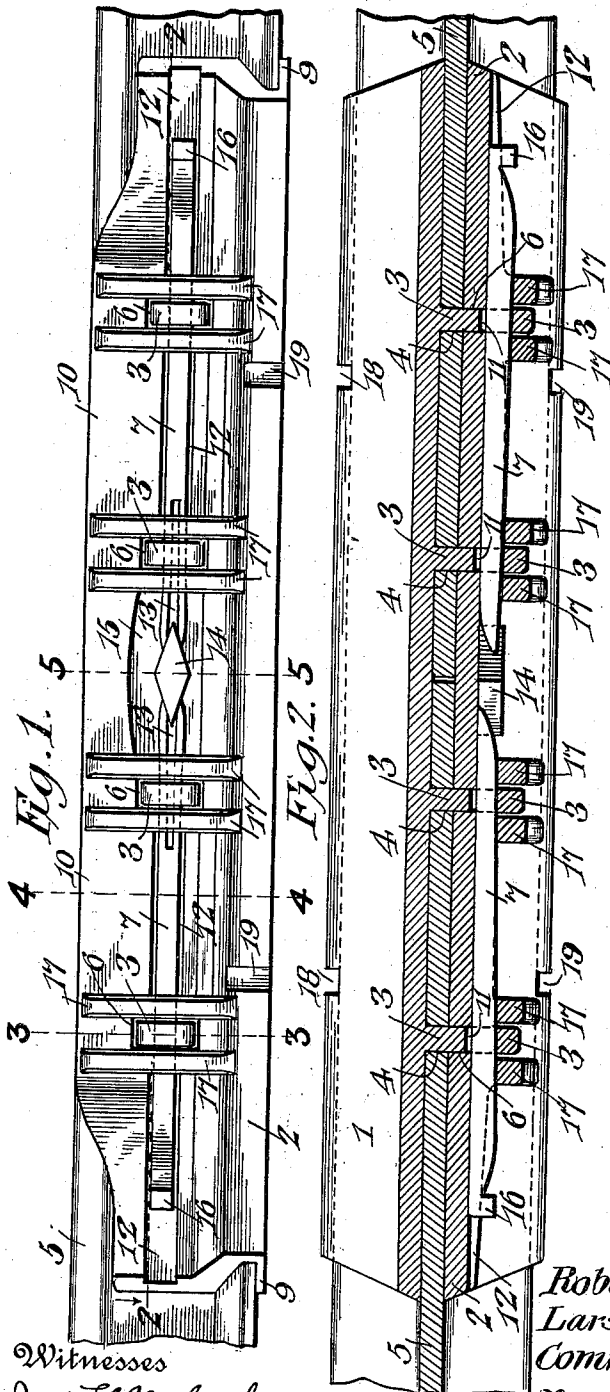


Fig. 5.

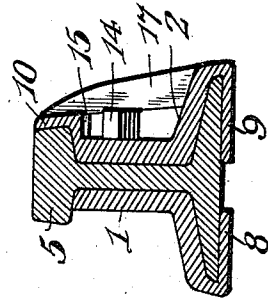


Fig. 4.

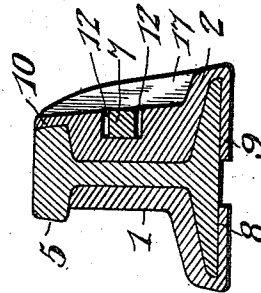
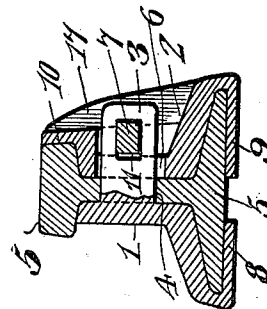


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

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RAIL-JOINT.

1,014,101.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, ROBERT E. TESREAU, LARS F. SUNDMAN, and COMMODORE P. HILL, citizens of the United States, residing at Doe Run, in the county of St. Francois and State of Missouri, 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, efficient and comparatively inexpensive rail joint of great strength and durability, designed to dispense with bolts and nuts, and capable of effectually preventing the rails from breaking down at the ends, and adapted to prevent the noise incident to the passage of the wheels of a train over the ends of the rails.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawing, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawing:—Figure 1 is a side elevation of a rail joint, constructed in accordance with this invention. Fig. 2 is a horizontal sectional view on the line 2—2 of Fig. 1. Fig. 3 is a transverse sectional view on the line 3—3 of Fig. 1. Fig. 4 is a transverse sectional view on the line 4—4 of Fig. 1. Fig. 5 is a transverse sectional view on the line 5—5 of Fig. 1.

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

In the accompanying drawing in which is illustrated the preferred embodiment of the invention, the rail joint comprises in its construction an inner splice bar or fish plate 1 and an outer splice bar or fish plate 2, detachably connected with the inner splice bar or fish plate 1 by means of a series of horizontally projecting lugs 3, formed integral with the inner splice bar or fish plate and extending outwardly through openings 4 in the webs of the adjacent ends of the rails 5 and also projecting through openings 6 in

the outer splice bar or fish plate and engaged by keys 7. The splice bars or fish plates 1 and 2 are angular to conform to the configuration of the web and bottom flanges of the rails, and they are provided at the base with inwardly extending horizontally disposed bottom portions 8 and 9, which receive the base of the rails and form a chair for the same. The splice bars or fish plates extend upward from the base of the rails to the head or ball of the same, and they fit against the underside of the heads of the rails and are adapted to prevent the vibration, which frequently causes a breaking off of the heads of the rails. The outside splice bar or fish plate is provided at the top with an extension 10, arranged in flush relation with the upper face or tread of the rails and forming a bridge for carrying the wheels of a train over the ends of the rails, whereby the latter are prevented from being crushed or broken down by the car wheels, and the noise usually incident to the passage of the wheels to the ends of the rails is eliminated.

The lugs are provided at their outer portions with horizontally alined openings 11, through which pass the keys 7, arranged in longitudinal grooves 12 in the outer face of the outside splice bar or fish plate and tapered longitudinally and provided with split inner ends 13, which are spread by a double wedge 14, arranged centrally of the outer splice bar or fish plate in a recess 15 thereof. The spreading of the split inner portions of the keys by the centrally arranged wedge engages the split portions of the keys with the adjacent lugs and firmly retains the keys in the openings of the lugs, so that there is no liability of the keys being accidentally jarred loose through the vibration of the rails. The keys are provided at their outer ends with suitable heads 16 and when sufficient force is applied, the keys are readily withdrawn from the opening of the lugs. The fastening means for securing the splice bars or fish plates to the rails is adapted to save time both in applying the rail joint to the rails and maintaining the same in a tight condition and also when removing the rails.

In order to reinforce the outer splice bar or fish plate and at the same time protect the lugs and prevent injury to the same, should the wheels of a car jump the rails, the outer splice bar or fish plate is provided with vertical ribs 17, located at opposite

sides of the lug receiving openings and extending from the lower portion of the splice bar to the top extension thereof and being of a width to project beyond the outer ends of the lugs to form guards for the same. 5 The outer edges of the guard ribs are preferably inclined, as shown, and should a wheel jump the track at the joint, the guard ribs will guide the wheel over the lugs and 10 prevent the wheel from coming in contact with the same. The inner and outer splice bars or fish plates are provided at the bottom with spike receiving recesses 18 and 19, and when they are spiked to the cross tie, 15 they will be effectually prevented from shifting even should one or more of the lugs become broken.

Having thus fully described our invention, what we claim as new and desire to secure 20 by Letters Patent, is:—

1. A rail joint including inner and outer splice bars or fish plates adapted to fit against the opposite faces of the ends of the rails, one of the splice bars being provided 25 with integral horizontally projecting lugs having alined openings and the other splice bar being provided with openings to receive the lugs and having upright guard ribs arranged in pairs and located at opposite 30 sides of the said opening and extending above and below the same and receiving the outer portions of the lugs between them, said ribs being of a width to project outwardly beyond the ends of the lugs to prevent 35 the wheels of a train from striking the same should the wheels jump the track and provided with alined openings, and a locking key passing through the said lugs and guard ribs.

2. A rail joint including inner and outer splice bars or fish plates adapted to fit against the opposite faces of the ends of the rails, one of the splice bars being provided with integral horizontally projecting lugs 45 having alined openings and the other splice bar being provided with openings to receive the lugs and having upright guard ribs arranged in pairs and located at opposite sides of the said opening and extending above 50 and below the same and receiving the outer

portions of the lugs between them, said ribs being of a width to project outwardly beyond the ends of the lugs to prevent the wheels of a train from striking the same should the wheels jump the track and provided with alined openings, and a locking 55 key passing through the said lugs and guard ribs, split locking keys extending from opposite ends of the plate through said lugs and ribs with their inner ends in opposition, and 60 a diamond-shaped spreading member engaging the inner split ends of the keys.

3. A rail joint including inner and outer splice bars or fish plates adapted to fit against the opposite faces of the ends of the 65 rails, one of the splice bars being provided with integral horizontally projecting lugs having alined openings and the other splice bar being provided with openings to receive the lugs and having upright guard ribs arranged in pairs and located at opposite 70 sides of the said opening and extending above and below the same and receiving the outer portions of the lugs between them, said ribs being of a width to project outwardly 75 beyond the ends of the lugs to prevent the wheels of a train from striking the same should the wheels jump the track and provided with alined openings, and a locking 80 key passing through the said lugs and guard ribs, split locking keys extending from opposite ends of the plate through the said lugs and ribs with their inner ends in opposition, and a diamond-shaped spreading 85 member engaging the inner split ends of the keys, the splice bars arranged to underlie the ball of the rails, and also having inwardly turned flanges underlying the base of the rails to form a chair, and one of the 90 members having its upper end extending flush with the tread of the rails.

In testimony, that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

ROBERT EDWARD TESREAU.
LARS FREDERICK SUNDMAN.
COMMODORE P. HILL.

Witnesses:

WILLIAM TESREAU, Jr.,
PETE WYEGES.