

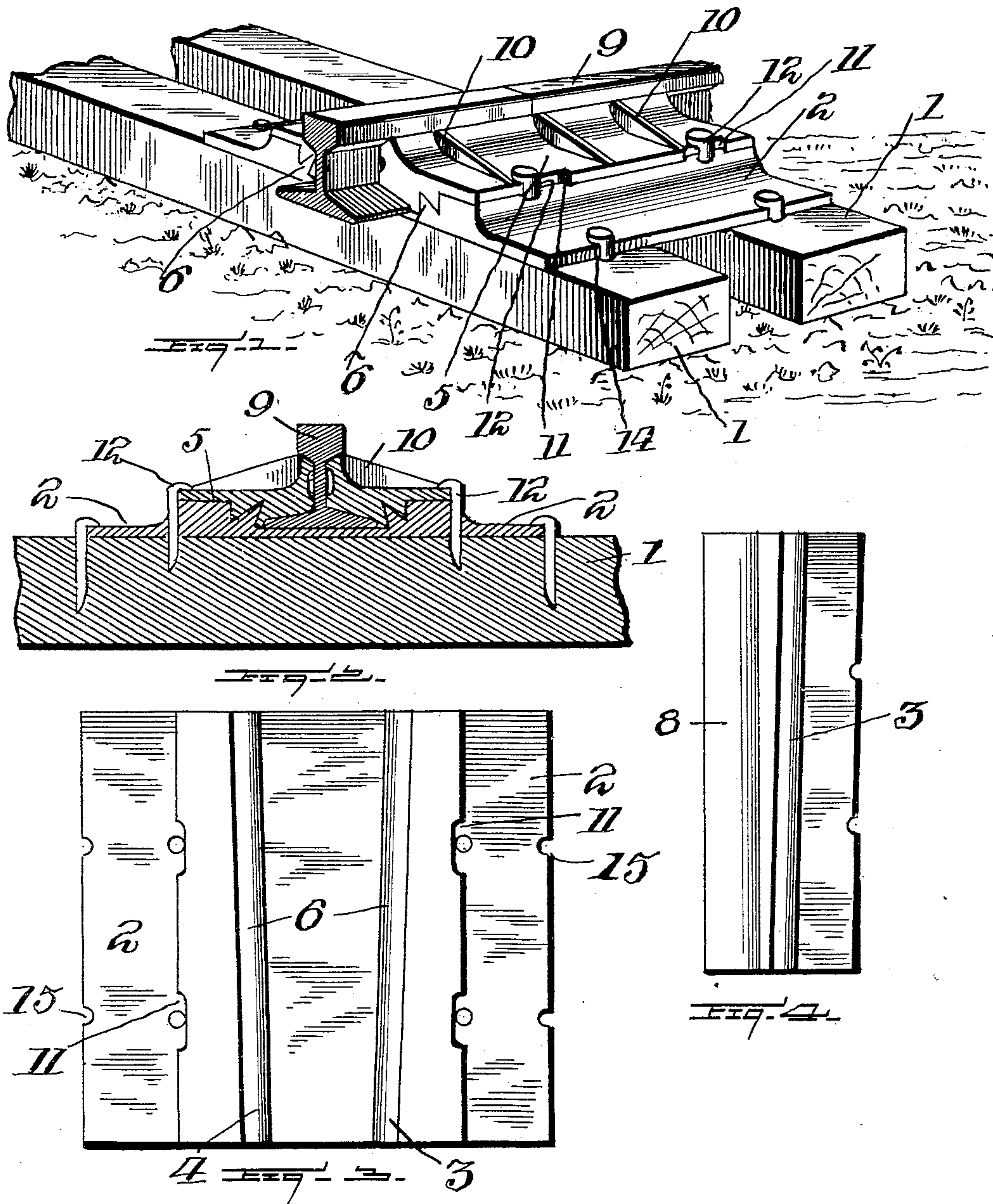
No. 713,391.

Patented Nov. 11, 1902.

J. A. BRIDGE.  
RAIL JOINT.

(Application filed June 23, 1902.)

(No Model.)



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 713,391, dated November 11, 1902.

Application filed June 23, 1902. Serial No. 112,772. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN A. BRIDGE, a citizen of the United States of America, residing at Wall Station, 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 drawings.

10 This invention relates to certain new and useful improvements in rail-joints, and relates more particularly to that class wherein the use of nuts and bolts are entirely dispensed with.

15 The present invention has for its object the provision of novel means whereby rails may be easily connected together; furthermore, to provide novel means that will permit the rails to be laterally adjusted to obtain the proper gage.

20 A still further object of my invention is to provide means to permit the rails of a lateral adjustment in case the inner faces of the tread of the rails become worn by reason of the friction caused by the flanges of the wheels passing over the same. Great difficulty has been experienced heretofore in accurately adjusting the rails after the inner faces of the tread are slightly worn away. My invention

25 aims to effectually overcome this difficulty. The present invention also contemplates to provide a rail-joint that will be extremely simple in construction, strong, durable, comparatively inexpensive to manufacture, and

30 highly efficient in its use. With the above and other objects in view the invention consists in the novel construction, combination, and arrangement of parts to be hereinafter more fully described, and

40 specifically pointed out in the claims. In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like numerals of reference indicate like parts throughout the several views, in which—

45 Figure 1 is a perspective view showing the meeting ends of the rails secured together by my improved joint. Fig. 2 is a vertical sectional view thereof. Fig. 3 is a plan view of the base-plate. Fig. 4 is a plan view of one of the locking fish-plates.

In the drawings the reference-numeral 1

represents the cross-ties, and 2 represents the base-plates, having wedge-shaped grooves 3 and 4 formed therein, said wedge-shaped 55 grooves tapering in opposite directions. The said base-plate 2 also forms a flat top 5 and a wedge-shaped projection 6, which slightly inclines toward the center. The locking fish-plates 8 are also wedge-shaped on their lower 60 faces and are adapted to engage the projection 6 and rest upon the flat top 5. These locking fish-plates are correspondingly wedge-shaped in opposite direction and form a clamping action upon the base and web of the 65 rails 9. These locking fish-plates are further provided with strengthening-ribs 10, formed integral therewith, and have formed at their ends elongated notches 11, spikes 12 engaging the locking fish-plates and pass through 70 the base-plate 2 and engage the ties 1. Similar spikes 14 engage the notches 15, formed in the ends of the base-plate 2, and serve to further secure the base-plate to the ties.

The operation of my improved rail-joint is 75 as follows: The rails are placed upon the base-plate in the ordinary manner, and the locking fish-plates are then secured upon the base-plate and are placed in position endwise, which locking fish-plates are secured from 80 the opposite direction, thereby forming a clamping action upon the rails, and when it is desired to adjust the rails laterally it will be easily accomplished by extending one fish-plate slightly beyond the other, which will 85 serve to move the rails inwardly, thereby obtaining the desired gage between the rails. The locking fish-plate is then fastened by means of the spikes 5, or other suitable fastening means may be employed for this purpose. In order to remove the rails, the locking fish-plates are drawn in the opposite direction endwise, which will tend to loosen 90 the joint, when the fish-plates may be easily removed, and the rails are then free to be removed or replaced as the occasion may require. 95

It will be noted that in this device it is not necessary to insert the rails in their position endwise, which has proven an objectionable 100 feature in this particular class of invention; but the rails are placed in position upon the base-plate in the ordinary manner. It will also be apparent that the present construc-



tion as heretofore described will permit the expansion and contraction of the rails which are caused by the changes in temperature.

5 The many other advantages obtained by the use of my improved device will be readily apparent from the foregoing description, taken in connection with the accompanying drawings.

10 It will be noted that various changes may be made in the details of construction without departing from the general spirit of my invention.

15 Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

20 1. In a rail-joint, the combination of the base-plate having oppositely-inclined grooves formed therein, locking fish-plates slidably secured in said grooves whereby the lateral adjustment of the rails is secured, substantially as described.

2. In a rail-joint, the combination with the rails, ties, base-plates secured upon said ties

having inclined grooves formed in their upper faces extending in opposite directions, 25 locking fish-plates slidably secured in said grooves having elongated notches formed in their edges, strengthening-ribs extending transversely to said locking fish-plate formed integral therewith, all parts being arranged 30 and operating substantially as described, and for the purpose set forth.

3. In a rail-joint, the combination of a base-plate having flat tops and oppositely-inclined grooves formed therein, locking fish-plates 35 secured in said grooves, fastening means extending through said base-plate and forming an engagement with the upper face of said locking fish-plates, substantially as described. 40

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

JOHN A. BRIDGE.

Witnesses:

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