

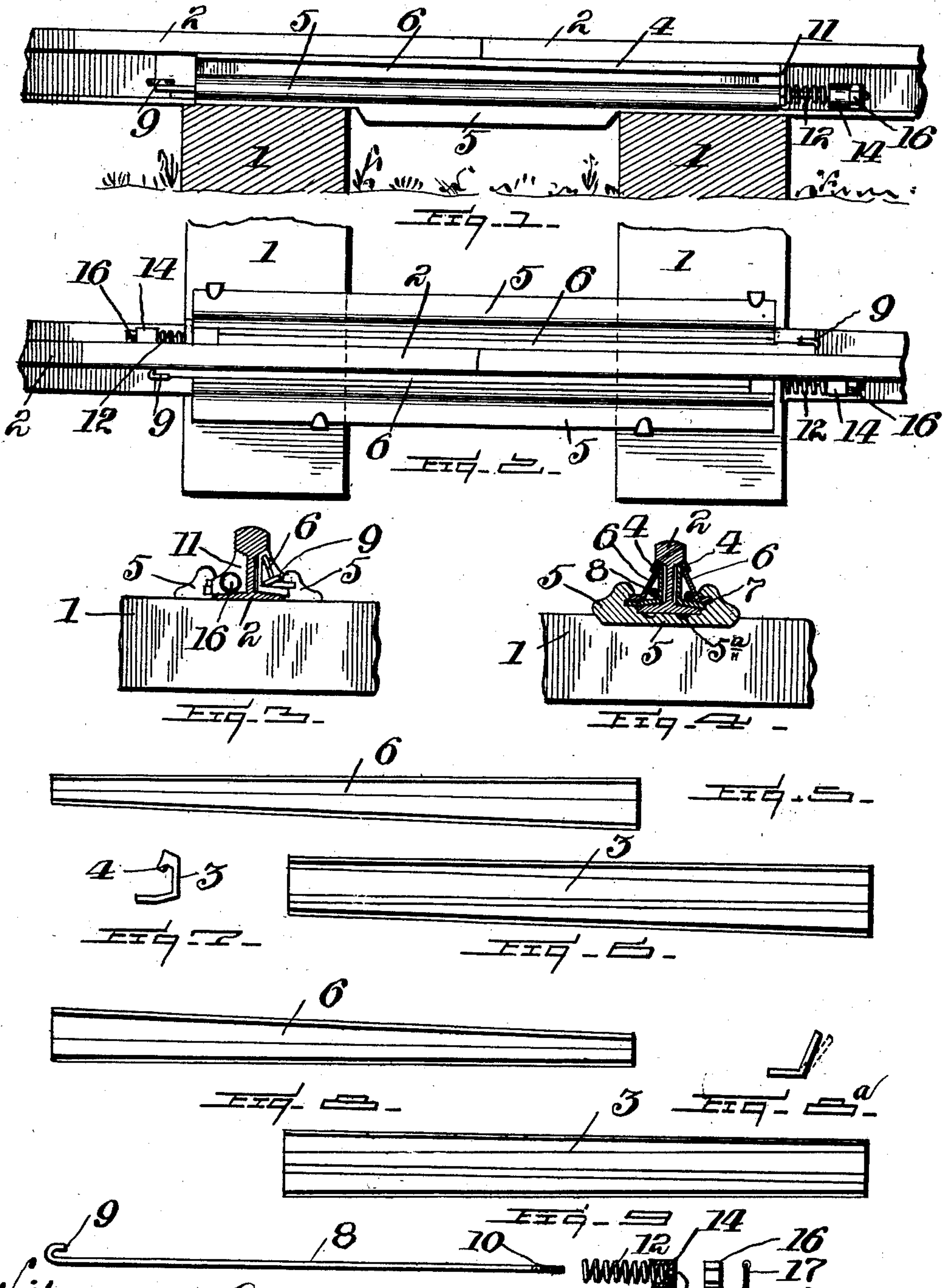
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Patented Dec. 2, 1902.

P. F. BERKEY.  
RAIL JOINT.

(Application filed Apr. 8, 1902.)

(No Model.)



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# UNITED STATES PATENT OFFICE.

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## RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 715,002, dated December 2, 1902.

Application filed April 8, 1902. Serial No. 101,931. (No model.)

*To all whom it may concern:*

Be it known that I, PETER F. BERKEY, a citizen of the United States of America, residing at Jennerstown, in the county of Somerset 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 dispensing with the use of nuts and bolts.

15 The present invention further contemplates to provide a rail-joint that may be easily applied to the rails and readily removed therefrom when desired without the necessity of inserting or removing the rails endwise, necessitating the tearing up of a long section of track.

20 Another object of my invention is to provide a rail-joint that will permit of expansion and contraction of the rails and to provide a novel form of yielding locking mechanism that will compensate for said expansion and contraction and effectually prevent the joint from jarring loose, which is a great objectionable feature in this class of inventions.

25 A still further object of my invention is to produce a rail-joint that may be used between the ties as well as on the ties; furthermore, one that will take up to a great extent the jar incident to the cars passing over the joints from one section to the other.

30 My present invention also aims to produce a rail-joint that will be extremely simple in its construction, strong, durable, and comparatively inexpensive to manufacture.

35 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 specifically pointed out in the claims.

40 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 side elevation of my improved rail-joint. Fig. 2 is a top plan view thereof.

Fig. 3 is an end view of the same. Fig. 4 is a vertical sectional view. Fig. 5 is a view in side elevation of the locking-plate. Fig. 6 is a view in side elevation of the fish-plate. Fig. 7 is an end view thereof. Fig. 8 is a view in side elevation of opposite locking-plate. Fig. 8<sup>a</sup> is an end view of the locking-plate, showing the same in its dotted position. Fig. 9 is a corresponding view to Fig. 6, showing the opposite fish-plate. Fig. 10 is a side elevation of the locking-rod and locking means.

In the drawings the cross-ties are indicated by the reference-numerals 1, and 2 indicates the rails, which are of the ordinary construction. The fish-plates 3 carry shoulders 4, said fish-plates being wedge-shaped, and the opposite fish-plates are beveled in opposite direction, as shown in Figs. 6 and 9 of the drawings. The rails 2 are seated in chairs 5, secured in the cross-ties 1, and the fish-plates are likewise secured in the chairs 5 and extend upwardly to engage the under face of the tread of the rail. The locking-plates 6 are beveled in opposite directions, as shown in Figs. 5 and 8 of the drawings, and are adapted to engage the under face of the shoulders 4 of the fish-plate and are seated in the chair, as shown at 7. Locking-rods 8 are provided with hooked ends 9, and the other end is screw-threaded, as shown at 10. A plate 11 is also adapted to be secured upon the locking-rods 8. This plate 11 will bear against the ends of the fish-plates. A spiral spring 12 encircles the locking-rod and bears against the plate 11, and a hood 14 serves as a seat for the other end of the spiral spring 12, said hood having a central aperture 15 formed therein, through which the end of the locking-rod 8 passes, the screw-threaded end 10 of the locking-rod being adapted to receive a securing-nut 16, and the end of the locking-rod has formed therein an opening to receive the spring-key 17. These locking-rods extend in opposite directions, and the hooked ends are adapted to engage the ends of the locking-plates, and the body portion of the rods are secured between the fish-plates and the locking-plates. It will be noted that by this arrangement as heretofore described a substantial and resilient rail-joint is constructed that will allow and compensate for both the expansion and contraction of the



rails and will also take up the jar and serve as a cushion for the rail.

As heretofore stated, the locking-plates 6 are beveled in opposite directions, as shown in Figs. 5 and 8<sup>a</sup> of the drawings, and are adapted to engage the under face of the shoulder 4 of the fish-plate, and are seated in the chair as shown at 7, these locking-plates 6 being of such shape as to cause the same to have a tendency to secure the fish-plates 3 securely against the under face of the head of the rail by engaging the shoulder 4 of the fish-plate 3, thus allowing a slight movement of the fish-plates in case of expansion and contraction, and it will be plainly seen in Fig. 4 of the drawings that a small space exists between the web of the rail and the fish-plates.

It will be noted in Fig. 4 of the drawings that the upper face of the chair 5 carries a number of grooves 5<sup>a</sup>, these grooves being adapted to receive a crowbar or other instrument, and thereby greatly facilitating the removing of the rails within the chair.

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

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

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

1. In a rail-joint, the combination of the rails, a chair to receive the said rails, fish-plates arranged on opposite sides of the rails and provided at their upper ends with shoulders, and locking-plates engaging the said shoulders.

2. In a rail-joint, the combination of the rails, a chair to receive said rails, wedge-shaped fish-plates engaging said rails and chairs, and wedge-shaped locking-plates engaging said fish-plates arranged above the fish-plates and chairs, substantially as described.

3. In a rail-joint, the combination of the rails, chairs to receive said rails, wedge-shaped fish-plates extending in opposite directions and carrying shoulders, wedge-shaped locking-plates engaging under said shoulders and

secured in said chairs, substantially as described.

4. In a rail-joint, the combination of the rails, wedge-shaped fish-plates carrying shoulders, wedge-shaped locking-plates engaging under said shoulders and said chairs, and yielding locking means secured between said fish-plates and locking-plates, substantially as described.

5. In a rail-joint, the combination of the rails, chairs to receive said rails, wedge-shaped fish-plates extending in opposite directions carrying shoulders, wedge-shaped locking-plates extending in opposite directions engaging under said shoulders, and secured in said chairs, locking-rods carrying a yielding connection engaging said locking-plates, substantially as described and for the purpose set forth.

6. In a rail-joint, the combination of the rails, wedge-shaped fish-plates carrying shoulders, wedge-shaped locking-plates extending in opposite directions, locking-rods carrying hooks, plates engaging said locking-rods, springs encircling said locking-rods, hoods to receive said springs, a securing-nut engaging the ends of said locking-rods, and means to secure said nuts in a locked position, all parts being arranged and operating substantially as described and for the purpose set forth.

7. In a rail-joint, the combination of the rails, wedge-shaped fish-plates carrying shoulders, wedge-shaped locking-plates extending in opposite directions, said locking-plates engaging the shoulders carried by the fish-plates, a chair, locking-rods carrying hooks, plates engaging said locking-rods, a spring encircling the said locking-rods, hoods to receive said spring, a securing-nut engaging the end of said locking-rods, means to secure the nuts in a locked position, the shape of the locking-plate providing means whereby the expansion and contraction of the rails and fish-plates may readily take place, all parts being arranged and operating substantially as described and for the purpose set forth.

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

PETER F. BERKEY.

Witnesses:

JOHN F. KERLIN,  
CHARLES E. STRONG.