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G. T. THOMPSON & A. J. LECHLER.
COMBINED RAIL CHAIR AND JOINT LOCK.

(Application filed May 22, 1900.)

2 Sheets—Sheet 2.

(No Model.)

Fig. 3.

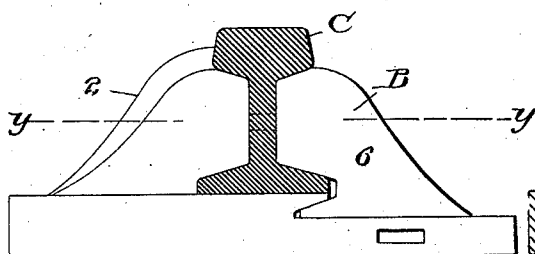


Fig. 4.

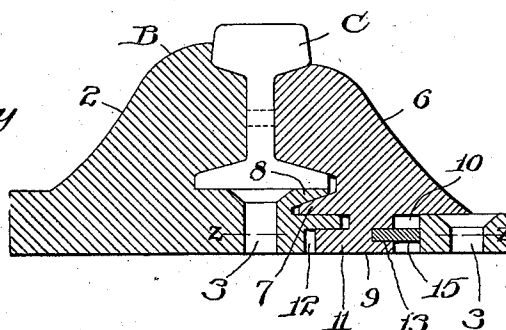


Fig. 7.

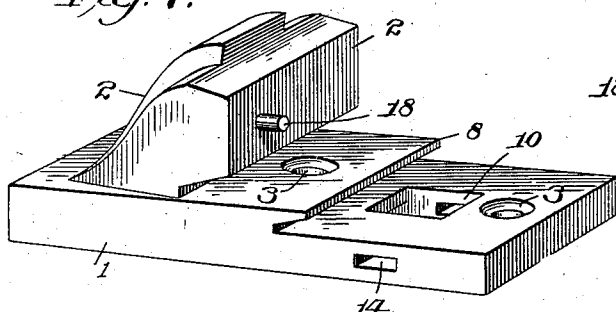


Fig. 8.

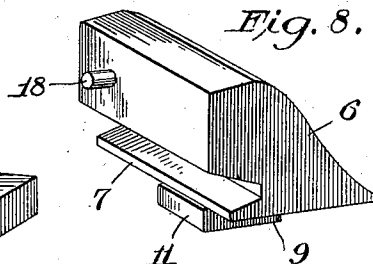


Fig. 5.

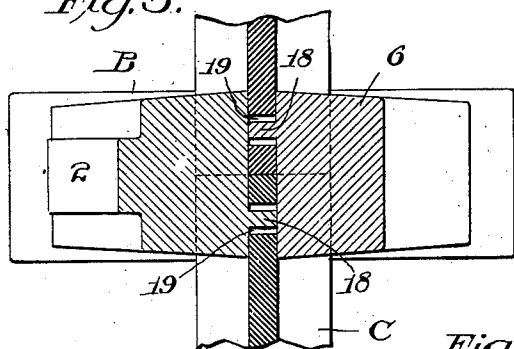


Fig. 6.

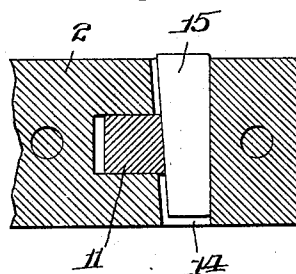
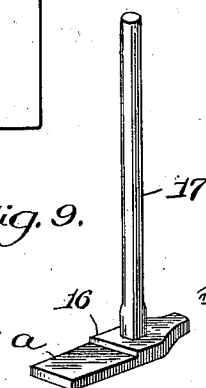


Fig. 9.



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COMBINED RAIL CHAIR AND JOINT LOCK.

SPECIFICATION forming part of Letters Patent No. 663,138, dated December 4, 1900.

Application filed May 22, 1900. Serial No. 17,605. (No model.)

To all whom it may concern:

Be it known that we, GEORGE T. THOMPSON and ANTHONY J. LECHLER, citizens of the United States, residing in the city and county of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in a Combined Rail Chair and Joint Lock, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

The object of this invention is to provide a combined rail chair and joint lock whereby not only shall the meeting ends of rail-sections be effectively supported and retained in position, but the same shall be securely fastened together without the use of fish-plates and their complementary bolts and nuts.

To this end the invention, as generally stated, comprises a base-plate having thereon two jaws, one of which is fixed and the other movable relatively thereto, the inner faces of the jaws being constructed and arranged to register with the opposing sides of two adjoining rail-sections interposed therebetween, and means being provided for forcing and locking the movable jaw against the rails, whereby the latter are supported and fixedly clamped in place.

The invention also comprises various features of construction and certain combinations of parts, which will be hereinafter particularly described and claimed.

In the drawings, Figure 1 is a plan of the device as in use. Fig. 2 is a sectional perspective view thereof. Fig. 3 is a side view of the same. Fig. 4 is a vertical section on the line *xx* of Fig. 1. Fig. 5 is a horizontal section on the line *yy* of Fig. 3. Fig. 6 is a similar section on the line *zz* of Fig. 4. Fig. 7 is a perspective view of the base and fixed jaw of the device. Fig. 8 is a similar view of the movable jaw. Fig. 9 is a like view of the "drift" or implement for use in removing the key or wedge which locks the movable jaw.

A represents a cross-tie, B our improved chair and joint lock thereon, and C C the meeting ends of two rail-sections supported upon and united by said chair and lock. This chair and lock includes in its preferred construction a broad base-plate 1, having formed

on or affixed to its upper side an upwardly-extending jaw 2, the inner face of which is appropriately shaped to register with the sides of the two rail-sections supported upon the plate. This plate is adapted to be bolted or spiked to the cross-tie, suitable apertures 3 being formed in the body of the plate for the passage of the bolts or spikes 4. One of the apertures is preferably formed in the rail-supporting portion of the plate, so that the bolt or spike therein will be covered by the rail, and thus all liability of accidental removal or displacement of the bolt or spike be obviated. The top of the plate is depressed inwardly beyond the rail-supporting portion thereof, and a clamping-jaw 6 is mounted thereon, so as to be movable toward and from the opposing sides of the two rail-sections. The inner or acting face of the jaw 6 is appropriately shaped to conform to the sides of such sections, and provision is had whereby this jaw may be forced and locked against the rails in a manner to clamp them securely upon the base-plate and between the two jaws. The movable jaw is provided along its inner edge, at or near the base thereof, with a beveled tongue 7, which when the jaw is clamped against the rail is interlocked with a correspondingly-shaped groove 8, formed in the plate 1, immediately below the rail-supporting portion thereof. This jaw has formed on its under side a depending portion 9, which enters a suitable socket or opening 10 in the base-plate. Along the edge of this block, immediately below and parallel with the tongue 7, is a rib 11, which registers with an offset 12 in the base-plate. The opposite edge of the block is provided with a longitudinal groove 13, which when the jaw is applied to the base-plate is in line with a transverse opening or keyway 14 in the latter. A wedge-shaped key 15 is adapted to be driven into the keyway and through the groove 13 in the block, thereby forcing the movable jaw hard against the opposing faces of the rail-sections and perforce clamping said sections together and upon the base-plate, the opposing beveled surfaces of the tongue 7 and its groove, in conjunction with the coacting portions of the movable jaw and rail-base, tending to effect and maintain an effectual

interlocking of the parts. The key is driven into the keyway in the base-plate, so that the larger end of the key will be flush with the edge of the latter, or nearly so, and thereby obviate any liability of accidental removal or displacement of the key. As a simple and efficient means whereby the key may be readily removed, if desired, we provide the implement or drift illustrated in Fig. 9, the same comprising a head 16, with an upwardly-extending handle 17. The flattened portion *a* of the head is adapted to be applied to the smaller end of the key, and the outer end *b* of the head thus applied to be struck by a hammer, the result being the driving out of the key.

The opposing faces of the respective jaws are preferably provided with studs 18, which enter suitably-disposed apertures 19 in the webs of the rails, such apertures being elongated to permit the requisite longitudinal expansion and contraction of the rails.

By the construction above described it will be seen that a simple, durable, and effective support and lock for the meeting ends of rail-sections is provided and that the manipulation of bolts and nuts in the operation of locking and unlocking the rails is entirely dispensed with. It will also be seen that in the event of the breaking of a rail the device may be readily applied thereto, so as to effectually support and unite the broken parts, the studs 18 in that case being removed from the jaws of the structure; further, that the invention may be applied with great advantage to the rails on curves and embankments.

We claim—

1. In a rail chair and joint lock, the combination with the base-plate provided with a rail-supporting portion, a locking-groove extending from the edge of said rail-supporting portion, and a stationary clamping-jaw thereon embracing one side of the rail opposite the locking-groove, of the oppositely-arranged movable clamping-jaw mounted on the base-plate, and provided with a locking-tongue to engage the locking-groove beneath the rail-supporting portion of the base-plate, and means to maintain the said parts in locked relation to each other and to the interposed rail.

2. In a rail chair and joint lock, the combination with the base-plate having a portion adapted for supporting contact with the rail, its locking-groove beneath the rail-support-

ing portion, the socket and stationary clamping-jaw, of the oppositely-arranged clamping-jaw movable in the socket in the base-plate, its locking-tongue, means to maintain said parts in locked relation against an interposed rail, studs on the opposing jaws adapted to enter suitably-disposed slots in the webs of the rail and means to lock them therein.

3. In a rail chair and joint lock, the combination with the base-plate having a portion adapted for supporting contact with the rail, its locking-groove beneath the rail-supporting portion, the socket and stationary clamping-jaw, of an oppositely-arranged movable clamping-jaw provided with a depending end adapted to enter the socket in the base-plate, a beveled tongue on the movable jaw adapted to register with the said locking-groove in the base-plate, and means to maintain said parts in locked relation against an interposed rail.

4. In a rail chair and joint lock, the combination with the base-plate and the stationary jaw thereon, the said plate being provided with an aperture and keyway, and with a groove and offset adjacent to the rail-supporting portion of the plate, of the movable jaw provided with the beveled tongue adapted to enter the said groove, a depending portion on said movable jaw fitted to said aperture and provided with a rib adapted to enter the said offset, and with a groove in line with the keyway in the base-plate, and a wedge or key adapted to be inserted in the keyway, and interlocked with the groove last named, substantially as described.

5. In a rail chair and joint lock, the combination of the base-plate having a rail-supporting portion and a stationary jaw rising therefrom, a locking-groove extending from one edge of and beneath the rail-supporting portion, a movable jaw, said base-plate being extended beyond the locking-groove to provide a support for a movable jaw and means to maintain said parts in locked relation.

In testimony whereof we have hereunto affixed our signatures this 11th day of May, A. D. 1900.

GEORGE T. THOMPSON.
ANTHONY J. LECHLER.

Witnesses:

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H. T. FENTON.