H. J. NEWMAN.

COMBINED RAIL JOINT AND CHAIR.

APPLICATION FILED NOV. 23, 1911.

1,042,027.

Patented Oct. 22, 1912.

2 SHEETS—SHEET 1.

Fig. 1.

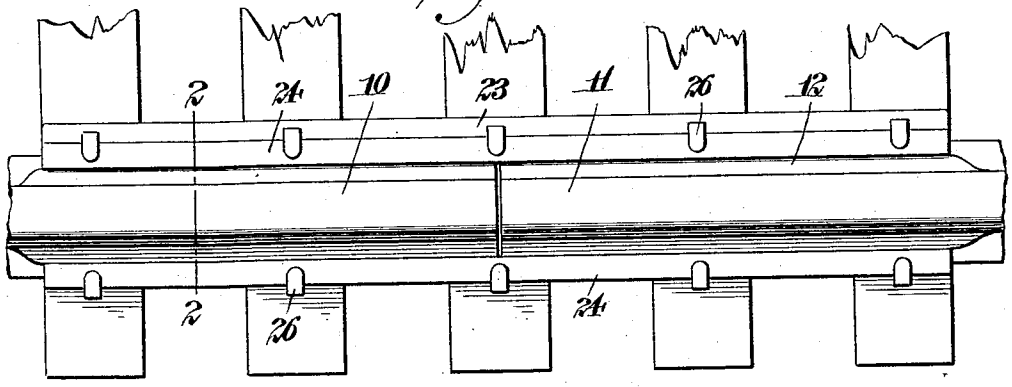


Fig. 2.

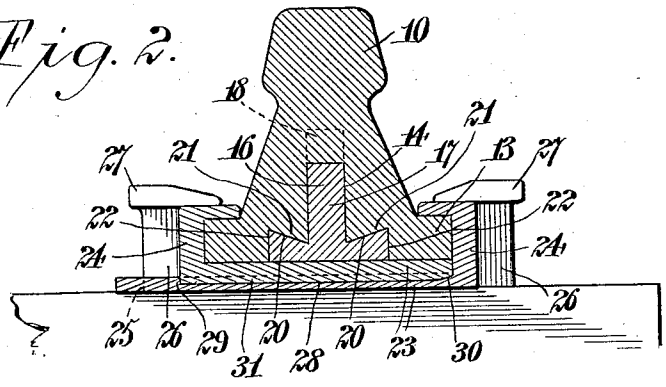


Fig. 3.

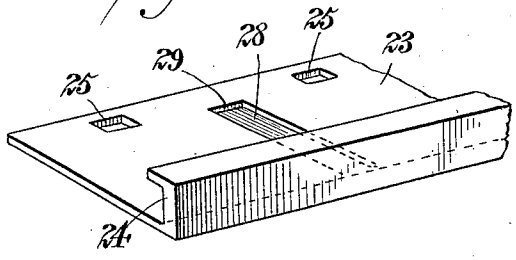
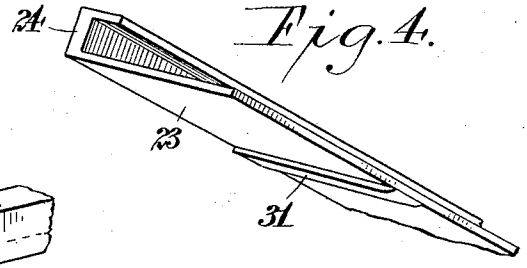


Fig. 4.



Witnesses:

Christ Feinle, Jr.

F. O. Lawless.

Inventor,

Harry J. Newman.

By Victor J. Evans,

Attorney.

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2 SHEETS—SHEET 2.

Fig. 5.

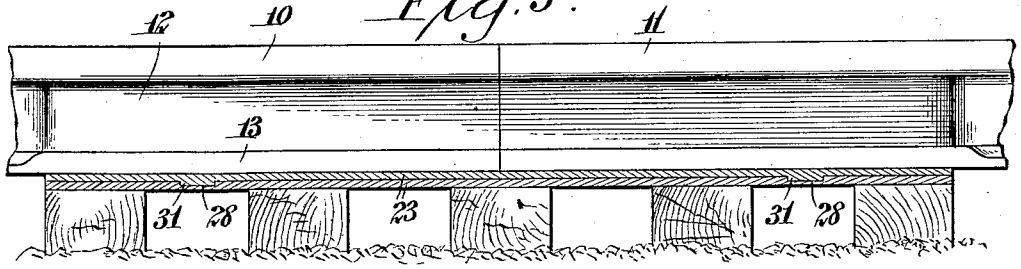


Fig. 6.

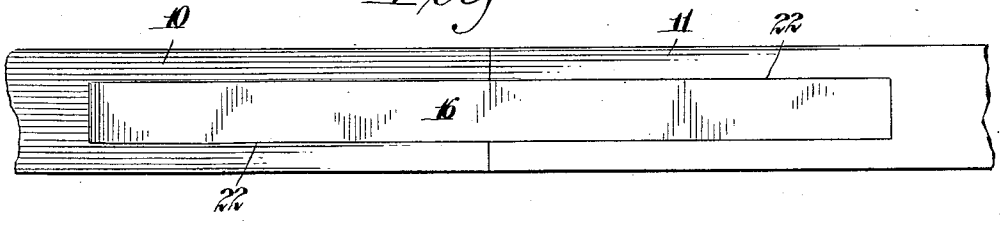


Fig. 7.

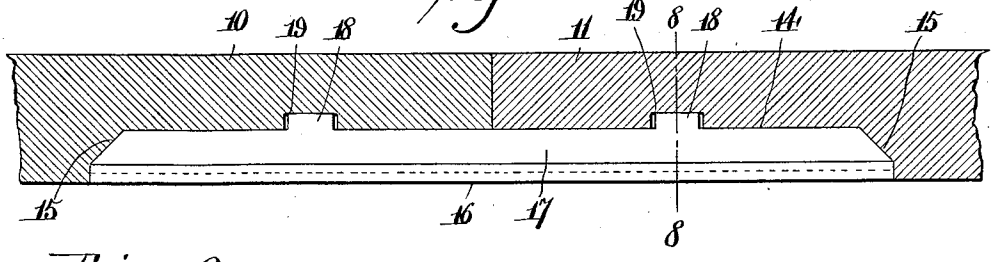


Fig. 8.

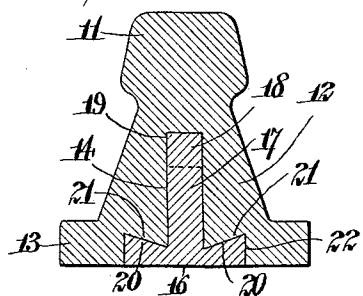
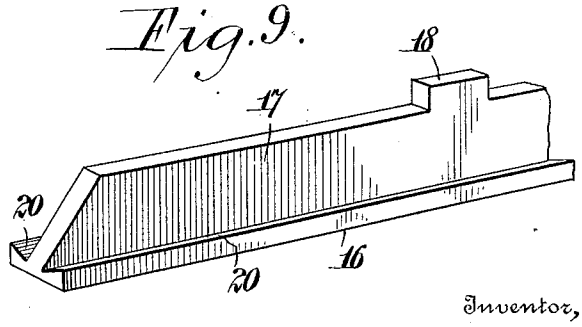


Fig. 9.



Witnesses:—

Christ Feinle Jr.

L. O. Taylor

Inventor,

Harry J. Newman.

By Victor J. Evans,

Attorney.

UNITED STATES PATENT OFFICE.

HARRY J. NEWMAN, OF MIAMI, TEXAS.

COMBINED RAIL JOINT AND CHAIR.

1,042,027. Specification of Letters Patent. Patented Oct. 22, 1912.

Application filed November 23, 1911. Serial No. 661,925.

To all whom it may concern:

Be it known that I, HARRY J. NEWMAN, a citizen of the United States, residing at Miami, in the county of Roberts and State of Texas, have invented new and useful Improvements in Combined Rail Joints and Chairs, of which the following is a specification.

The invention relates to a combined rail joint and chair, and has for its primary object to provide a combination device in which the meeting ends of railway rails may be joined, so as to permit expansion and contraction thereof longitudinally of their length, yet the same will be prevented from splitting or spreading at the joint, the chair being designed as a runway for the rail ends, when expanding and contracting, and serves as a ballast therefor.

Another object of the invention is the provision of a combination device of this character in which the joint between the rail ends may be sustained secure, without the use of ordinary bolts and nuts, thereby obviating the necessity of perforating the webs of the rails for the reception of the bolts, or the employment of fish plates, and also preventing the possibility of the loosening of the spikes ordinarily used for fastening the rails to the cross ties.

A further object of the invention is the provision of a combination device of this character in which the meeting ends of the rails will be prevented from sagging, one with respect to the other, thereby obviating the pounding of the car wheels when passing over the joint, yet either rail end will be free for the requisite expansion and contraction when taking place therein, without the liability of the separation of the rail ends laterally, or to an excessive degree longitudinally.

A still further object of the invention is the provision of a combination device of this character which is simple in construction, strong, and inexpensive in production.

With these and other objects in view, the invention consists in the construction, combination and arrangement of parts, as will be hereinafter more fully described, illustrated in the accompanying drawings, and pointed out in the claim hereunto appended.

In the drawings: Figure 1 is a fragmentary top plan view of the meeting ends of railway rails, shown mounted in the chair constructed in accordance with the invention. Fig. 2 is a sectional view on the line 2—2 of Fig. 1. Fig. 3 is a fragmentary end elevation of one section of the chair. Fig. 4 is a similar view of the other section of the chair. Fig. 5 is a vertical longitudinal sectional view through the chair, showing the rail ends in side elevation. Fig. 6 is a bottom plan view of the rail joint removed from the chair. Fig. 7 is a vertical longitudinal sectional view thereof. Fig. 8 is a sectional view on the line 8—8 of Fig. 7. Fig. 9 is a fragmentary perspective view of the locking key for the rail joint.

Similar reference characters indicate corresponding parts throughout the several views of the drawings.

Referring to the drawings by numerals, 10 and 11 indicate the meeting ends, respectively, of railway rails, the same being of complementary construction and are formed with thickened webs 12 which extend for a distance longitudinally thereof, the thickened webs 12 merging into the base flanges 13 which project laterally beyond the same. Formed centrally in the thickened webs 12 of the rail ends and opening through the base flanges 13 thereof are alining recesses 14 which also open through the abutting extremities of the rail ends, while the closed ends of the said recesses are provided with beveled abutments 15, and in these recesses is adapted to be inserted a locking element, presently described.

The locking element comprises an inverted substantially T-shaped bar 16, the vertical portion 17 of which is correspondingly shaped with respect to said recesses 14 in the rail ends to snugly engage therein, and is formed with lugs 18 which engage in pockets or sockets 19 formed in the said rail ends to intersect the recesses 14, the pockets or sockets 19 being of a slightly greater length than the lugs 18, so as to permit the expansion and contraction of the rail ends, without the possibility of the separation of the same to an excessive degree, or the lateral displacement thereof, thus locking the rail ends together.

The upper face of the horizontal portion of the bar 16, at opposite sides of the vertical portion 17 thereof, is formed with downwardly converging or inwardly beveled surfaces 20 to coöperate with correspondingly converging or beveled surfaces 21 of alining channels 22 in the base flanges of the rail ends 10 and 11, which channels are

of a size corresponding to the horizontal portion of the bar 16 to receive the same, and by the frictional contact of the beveled surfaces 20 and 21, should excessive pressure be applied to the rail ends, the web portions 12 thereof will be prevented from laterally spreading, as will be clearly obvious, and also obviating the widening of the recesses 14 receiving the vertical portion of the locking bar 16, when fastening the rail ends.

The chair is formed of separable sections, each comprising a base 23, and an upstanding hook-like retaining flange 24 provided at one side edge thereof, the base of one section being adapted to lie upon the base of the other section, so that the hook-like flanges 24 will engage the laterally projecting portions of the base flanges of the rail ends which are positioned within the chair, whereby they may freely move in a longitudinal direction therein, during expansion and contraction. The lowermost flange 23 of one section is of greater width than the uppermost flange of the other section, and is provided at intervals with spike receiving openings 25, in which are driven the usual spikes 26 which engage in the cross ties, so that their heads 27 will overhang the hook-like flange 24 of the other section. The spikes 26 which are driven into the cross ties at the opposite sides of the chair do not pass through the bases of either section thereof, but have their heads 27 overhanging the adjacent hook-like flange 24 of the other section of the chair. Thus, it will be seen that the chair will be held against any lateral or longitudinal displacement and serves as a ballast for the rail ends, as well as a runway to permit displacement thereof in a longitudinal direction, during expansion and contraction of the same.

Formed in the lowermost base flange 23 of one section of the chair, near each end thereof, is a transversely arranged locking groove 28 formed with a straight right angular abutment wall 29 at one end, and a rounded wall 30 at its opposite end, and in this locking groove 28 is received a transversely arranged locking rib 31 formed on the under face of the uppermost base of the other section of the chair at each end thereof, the locking rib 31 being of a size corresponding to the locking groove 28, so that when engaged therein the sections of the chair will be prevented from lateral displacement irrespective of the weight or pressure exerted thereon, and in this manner the rail will be held, so that there will be no possibility of the same becoming displaced in a lateral direction, or of its spreading, when subjected to heavy loads. It will be seen that by mounting the rail ends in the chair, the weight thereof will securely lock the sections of the same together, and it will relieve the strain upon the spikes, as the latter will merely hold the chair upon its cross tie, and such spikes will not be required for fastening the rail ends to the cross ties, nor will it be necessary to employ bolt members for joining the rails, as usual.

What is claimed is:

In a rail chair a pair of sections having rail engaging flanges and provided with overlapping flat base portions, the said base portion of one section being formed with transverse grooves extending from the flange thereof and terminating at a point spaced from the free edge of the base of the same and transverse ribs formed on the base of the other section and adapted to engage in the said grooves for locking the overlapping bases of the sections to prevent lateral displacement thereof.

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

HARRY J. NEWMAN.

Witnesses:

FRANK O. PARKER,

BENNETT S. JONES.