

No. 837,434.

PATENTED DEC. 4, 1906.

C. T. TAYLOR.
RAIL JOINT.

APPLICATION FILED MAR. 6, 1906.

2 SHEETS—SHEET 1.

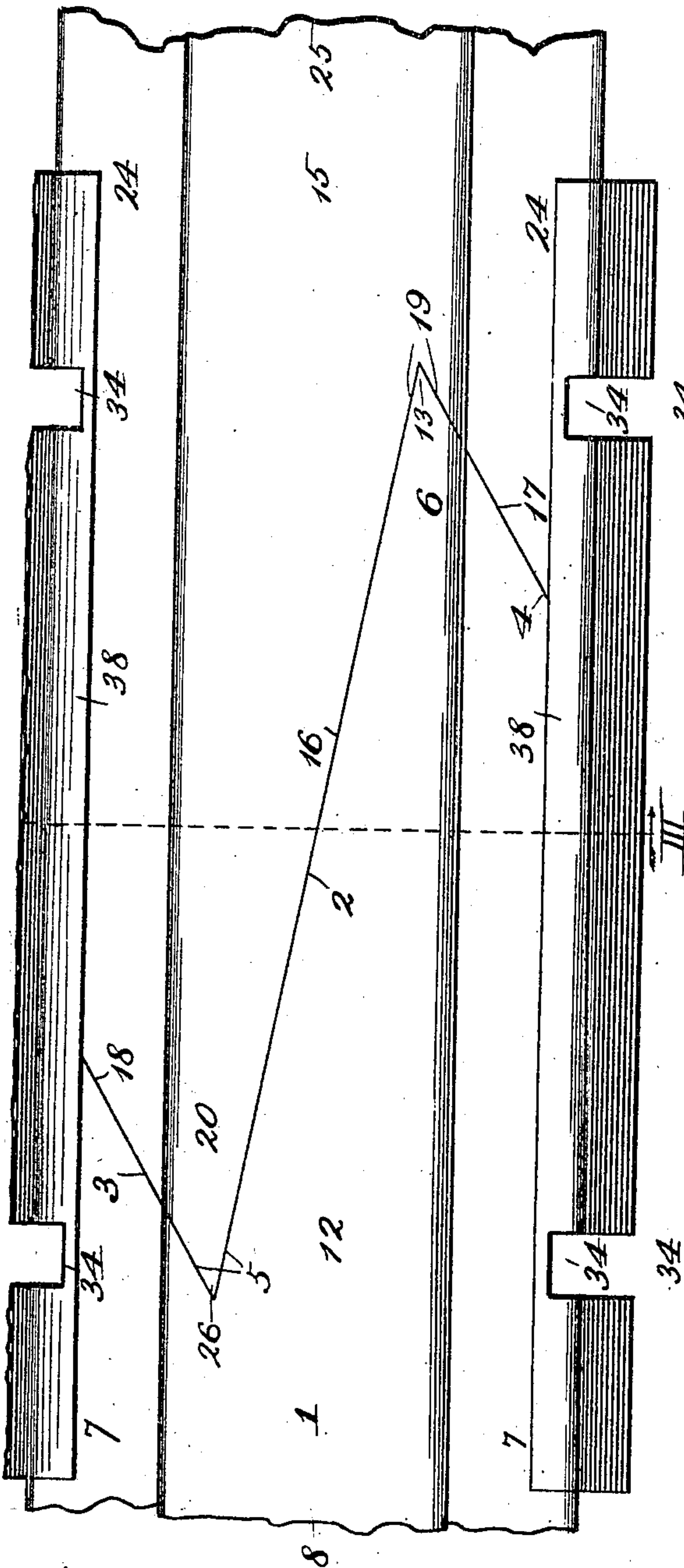


Fig. 1.

Witnesses:

R. C. Hamilton.

J. Moore.

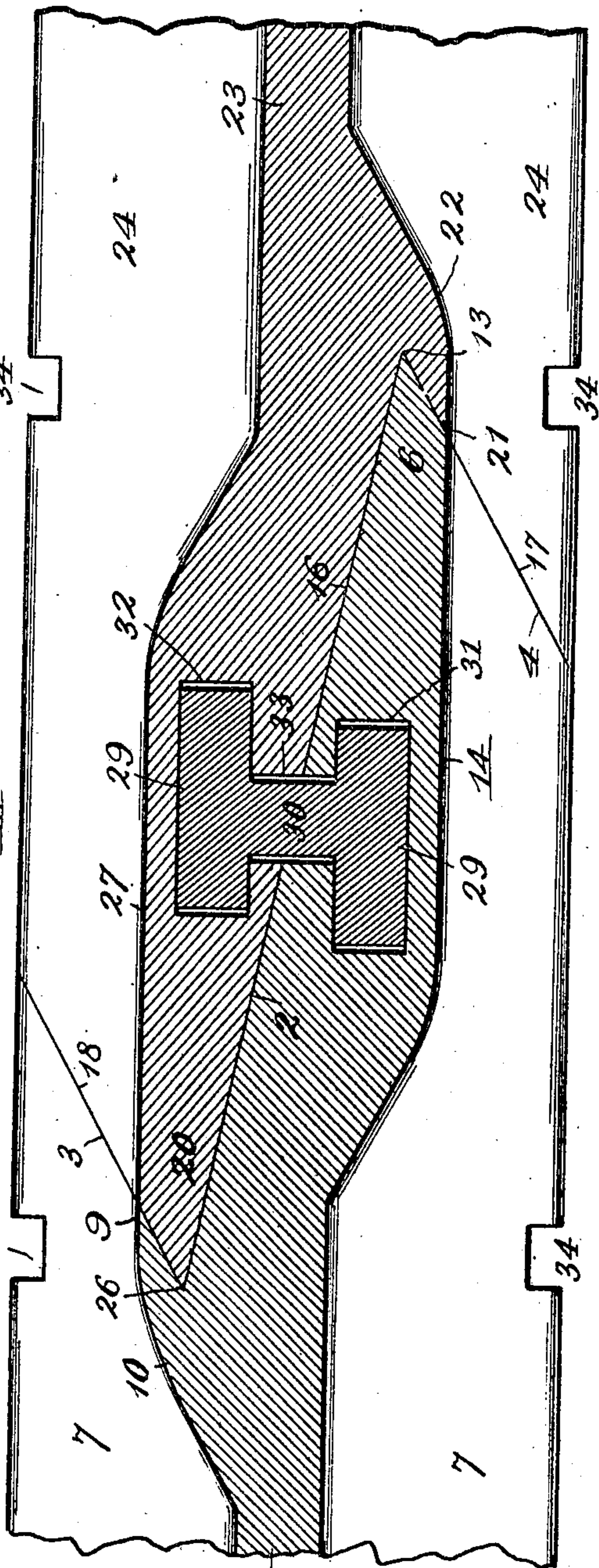


Fig. 2.

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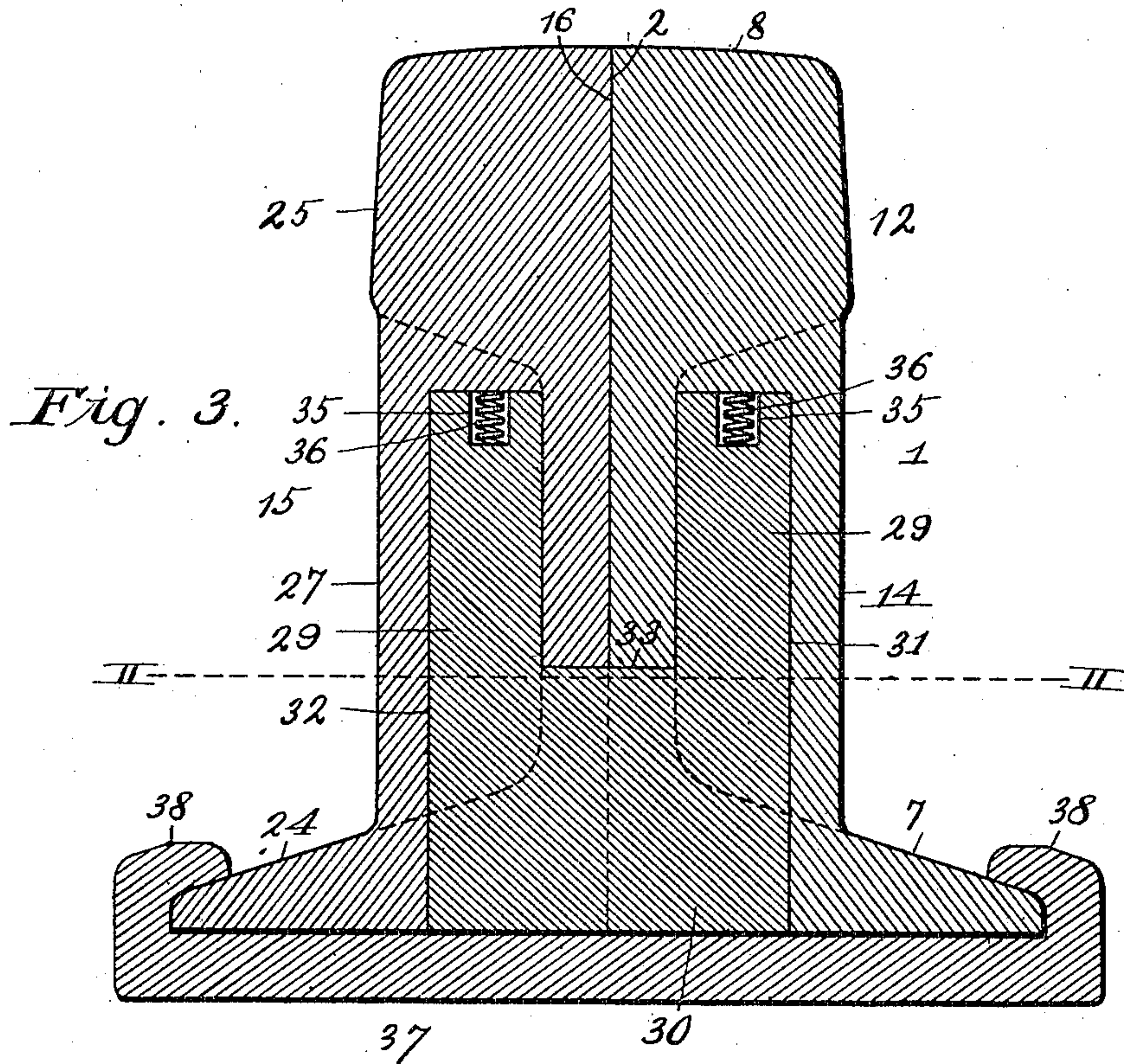
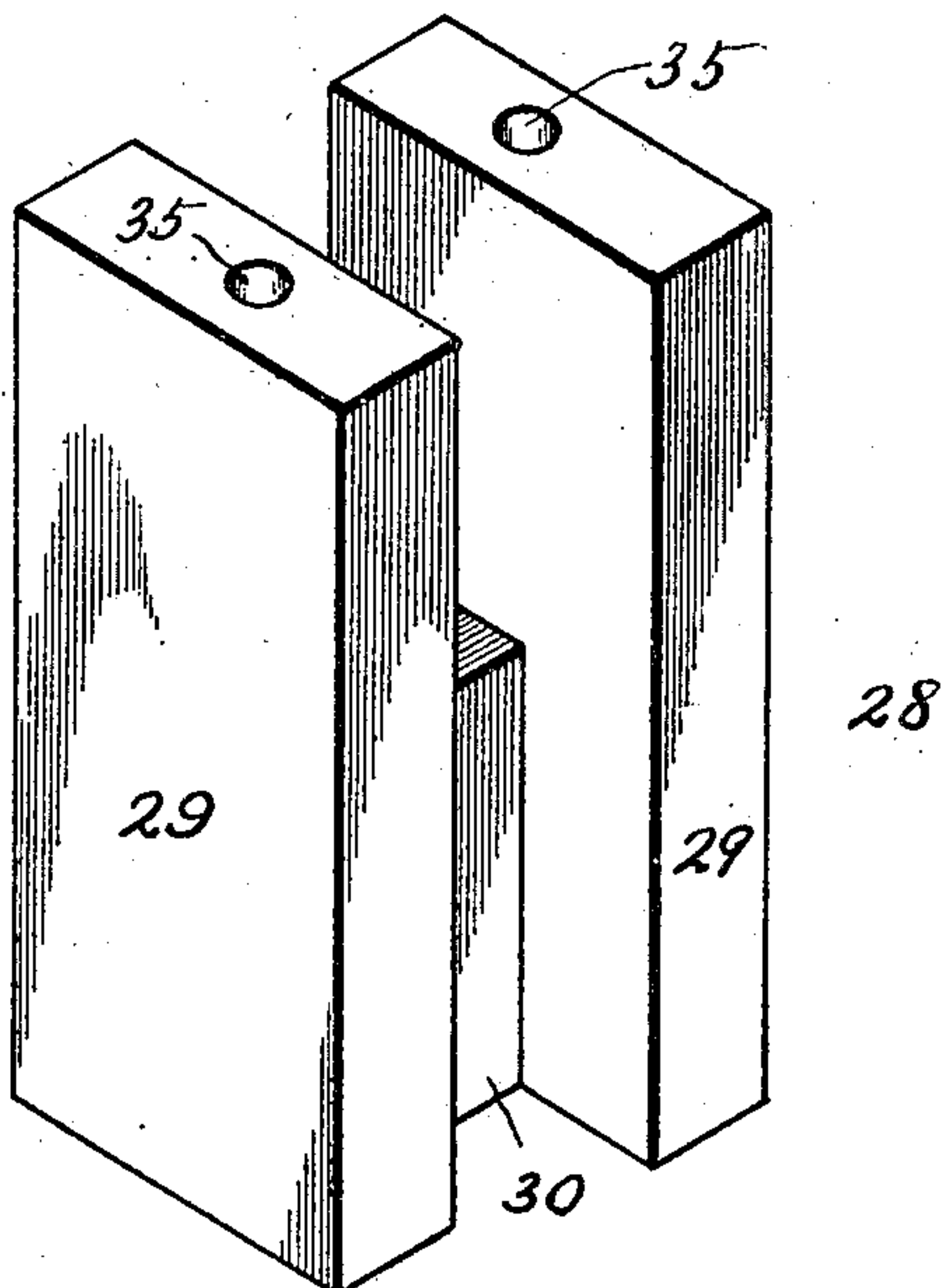


Fig. 4.



Witnesses:
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J. Morris.

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UNITED STATES PATENT OFFICE.

CHARLES T. TAYLOR, OF WOODSTON, KANSAS.

RAIL-JOINT.

No. 837,434.

Specification of Letters Patent.

Patented Dec. 4, 1906.

Application filed March 6, 1906. Serial No. 304,549.

To all whom it may concern:

Be it known that I, CHARLES T. TAYLOR, a citizen of the United States, residing at Woodston, in the county of Rooks and State of Kansas, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification.

My invention relates to improvements in rail-joints; and one of my objects is to provide railway-rails with interlocking ends, so that the latter will be held from independent lateral movement and be permitted to move longitudinally only so far as it is necessary for the proper expansion and contraction of the rails.

A further object is to obviate undue wear at the ends of the rails caused by car-wheels passing over widely-separated joints.

A further object is to increase the strength of the rails at the joint and decrease the cost of maintenance by dispensing with fish-plates, bolts, and nut-locks.

A further object is to prevent the end of one rail from rising higher than the end of the adjoining rail.

Another object is to provide a continuous path from one rail to another for an electric current when my invention is applied to electric railways.

Referring now to the accompanying drawings, which illustrate the invention, Figure 1 represents a plan view of my improved rail-joint. Fig. 2 is a longitudinal section of same on line II II of Fig. 3, with a shoe forming part of the invention removed. Fig. 3 is a transverse section on line III of Fig. 1. Fig. 4 is a detail perspective of a key forming part of the invention.

1 designates a rail provided at its end with a beveled edge 2, communicating at its ends with reversely-disposed bevel edges 3 4, forming a V-shaped groove 5 and a V-shaped tongue 6. Said bevel edges extend vertically from base 7 to the tread 8 of said rail. Point 9 of groove 5 is strengthened by a reinforcement 10, integral with a web 11, said reinforcement extending from one of the base-flanges to the ball 12 of the rail. Tongue 6 is strengthened from its point 13 by a reinforcement 14, integral with web 11 and extending longitudinally to a point opposite point 9 and vertically from base-flanges 7 to the under side of ball 12, care being taken to keep the outer faces of the reinforcements within the plane of said ball, so that the car-wheel flanges will not contact therewith. 15

designates another rail having a bevel edge 16, bearing its entire length against edge 2 and communicating at its ends with reversely-disposed bevel edges 17 18, forming a groove 19 and a tongue 20, respectively. Tongues 6 and 20 fit snugly within grooves 5 and 19, thus interlocking the ends of the rails, so that the latter will be reliably held from independent lateral movement. Point 21 of groove 19 is strengthened by a reinforcement 22, integral with web 23 and extending from one of the base-flanges 24 to ball 25 of the rail 15. Point 26 of tongue 20 is strengthened by a reinforcement 27, integral with web 23 and extending longitudinally to a point opposite point 21, said reinforcements extending from base-flanges 24 to ball 25.

By providing the reinforcements it is obvious that when the rails are secured together the joints will be stronger than their intermediate portions, and by employing lap-joints, as shown, the car-wheels will pass upon the end of one rail before leaving the end of the adjoining rail. Hence one end will not have a tendency to rise above the other, and the treads of said adjoining ends will be held in horizontal alinement. Thus undue wear at said ends and flat wheels, caused by passing over widely-separated and uneven joints, will be eliminated.

Undue independent longitudinal movement of the rails is prevented by means of a key 28, consisting of two vertical members 29, united at their lower portions by a transverse member 30. Members 29 fit snugly within key-seats 31 32, extending upwardly into tongues 6 and 20, respectively, said seats having communication at their lower portions through a transverse channel 33 for the reception of transverse member 30.

Key-seats 31 32 and channel 33 are slightly wider than members 29 30, so that the rails may expand and contract without twisting or otherwise distorting the key. The key is assisted in holding the joint in position by means of spikes (not shown) adapted to engage notches 34 in the edges of the base-flanges. The upper ends of members 29 are provided with recesses 35 for the reception of expansion-springs 36, which bear against the upper ends of the key-seats, and thus, in conjunction with the key, form continuous conductors from one rail to another for an electric current when the joint is applied to electric railways.

37 designates a shoe underlying the ends of

the rails and provided with longitudinal flanges 38, which overlap flanges 7 24, and thus prevent the end of one rail from rising higher than the adjoining end. Said shoe 5 also prevents the key from working loose and falling from its seats.

In practice the shoe is slipped back upon one rail, and the end of the adjoining rail is placed in position with its tongue and groove 10 engaging the groove and tongue of the first-mentioned rail. Key 28 is then forced into its seats, and the shoe is driven forward until it equally engages both rails.

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

1. In a rail-joint, lapped tongues integral with the adjoining ends of the rails, the latter having grooves to receive the respective 20 tongues, a key for engaging key-seats in the under portions of said tongues, and a shoe for retaining said key in place.

2. In a rail-joint, lapped tongues integral with the adjoining ends of the rails and pro- 25 vided with reinforcements integral with the webs and extending from the base-flanges to the balls of the respective rails, which latter

have grooves to receive the tongues, and a key adapted to engage key-seats in said tongues. 30

3. In a rail-joint, lapped tongues integral with the adjoining ends of the rails, the latter having grooves to receive the respective tongues, a key for engaging key-seats in the under portions of said tongues, and a shoe 35 having longitudinal flanges to overlap the base-flanges of the rail and retain the key in place.

4. In a rail-joint, lapped tongues integral with the adjoining ends of the rails, V-shaped 40 tongues extending vertically from the base to the tread of the respective rails which latter have V-shaped grooves to receive said tongues, reinforcements integral with the webs of the rails for strengthening the outer 45 points of the V-shaped grooves, and a key for holding the respective ends of the rails together.

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

CHARLES T. TAYLOR.

Witnesses:

F. G. FISCHER,
J. MOORE.