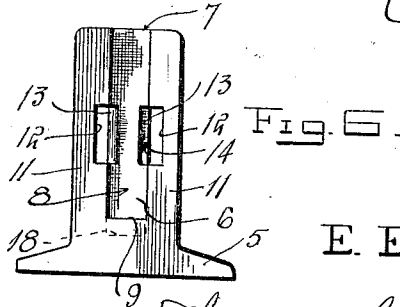
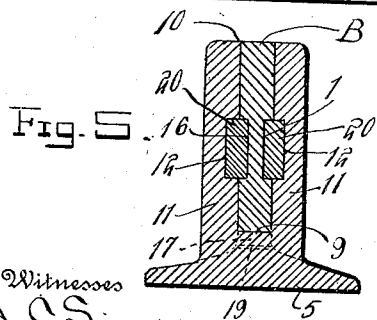
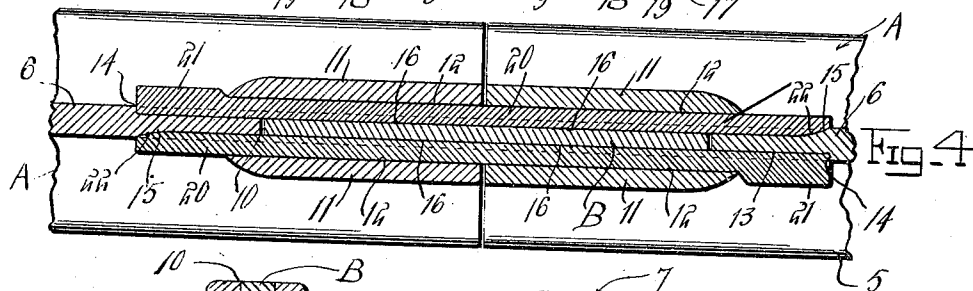
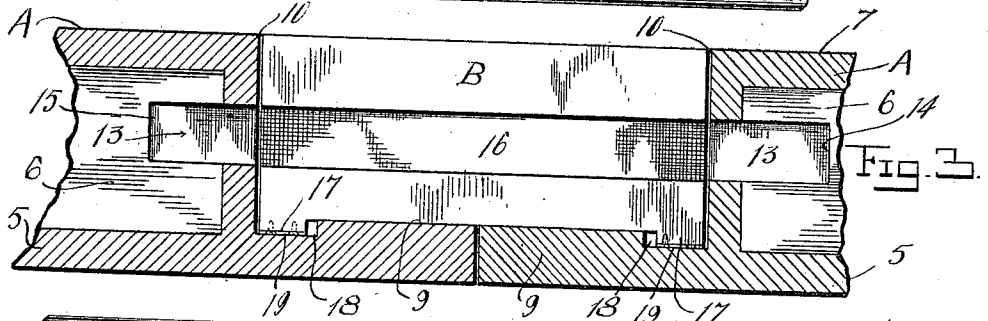
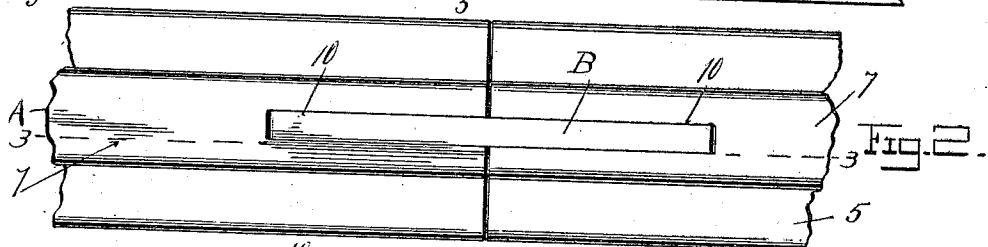
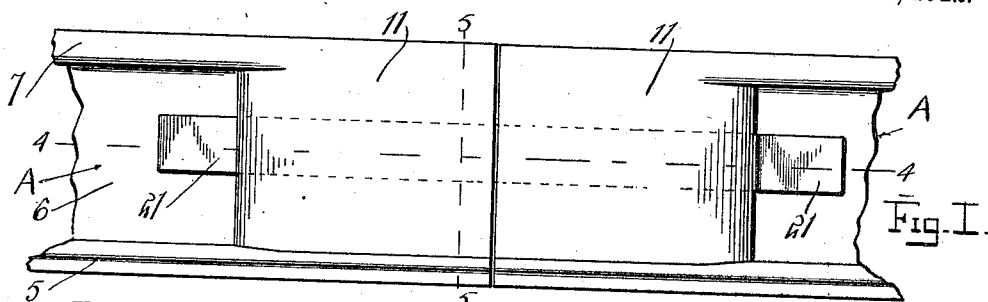


E. ELLIS.
RAIL JOINT.
APPLICATION FILED JUNE 19, 1912.

1,043,913.

Patented Nov. 12, 1912.



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UNITED STATES PATENT OFFICE.

ED ELLIS, OF GUTHRIE, OKLAHOMA, ASSIGNOR OF ONE-THIRD TO WILLIAM K. PATTERSON AND ONE-THIRD TO ALPHEUS A. LEER, BOTH OF GUTHRIE, OKLAHOMA.

RAIL-JOINT.

1,043,913.

Specification of Letters Patent.

Patented Nov. 12, 1912.

Application filed June 19, 1912. Serial No. 704,664.

To all whom it may concern:

Be it known that I, ED ELLIS, a citizen of the United States, residing at Guthrie, in the county of Logan, State of Oklahoma, have invented certain new and useful Improvements in Rail-Joints; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as it appertains to make and use the same.

This invention relates to improvements in rail joints.

The principal object of the invention is to provide a rail joint which may be readily assembled or disassembled without the use of any bolts whatsoever, and which, when in the former position, will be positive in operation.

Another object of the invention is to provide a rail joint which will positively prevent any vertical movements between the adjacent ends of adjacent rail sections, yet permitting of a limited longitudinal movement to allow for the creeping of said rails.

A further object of the invention is to provide a rail joint in which the meeting ends of adjacent sections are interlocked by a novel bridge element, which is so constructed as to insure sufficient conductivity between the rail sections, thereby avoiding the necessity of bonding the rails.

A still further object of the invention is to provide a rail joint of the character described which is extremely simple in construction, it being composed of a minimum number of parts, and is therefore cheap to manufacture.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawing and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction within the scope of the claims may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawing: Figure 1 is a detail side elevation showing a rail joint constructed in accordance with my invention, Fig. 2 is a top plan view thereof, Fig. 3 is a sectional view taken on the line 3—3 of Fig. 2, parts thereof being shown in elevation, Fig. 4 is a horizontal sectional view taken on the line

4—4 of Fig. 1, Fig. 5 is a transverse sectional view taken on the line 5—5 of Fig. 1, and Fig. 6 is a detail end-elevation of one of the rail sections.

Like reference numerals designate corresponding parts in all the figures of the drawing.

Referring to the drawing, the invention comprises a pair of adjacent rail sections A—A, each section including a base 5, web 6 and tread 7. The end of each web 6 is cut away directly below the tread 7 to form an opening 8 and a recess with a raised portion 9 at the bottom leaving a seat 18. The end of the tread 7 is formed with an inwardly extending slot 10 of a width equal to the width of the opening 8. Arranged at either end of each section on either side of the web 6 are supplemental webs 11—11. These webs are each formed integral with the base 5 and tread 7, and the outer faces thereof are arranged flush with the sides of the tread. The inner faces of the supplemental webs 11 are centrally formed with longitudinal grooves 12—12, and the opposite faces of the web 6 are centrally formed with longitudinal grooves 13—13. The grooves 13 extend inwardly along the rail section and terminate in spaced relation to the inner end of a respective supplemental web 11. The end of one groove 13 is formed with a transverse shoulder 14, while the end of the other groove is formed with an inclined face 15. It will be observed that the grooves 12 and 13 form longitudinal openings between the web 6 and the supplemental webs 11.

In order to permit of a limited longitudinal movement between the rail sections A and to prevent lateral movement between the adjacent ends of said sections, there is provided a bridge element B. This element is likewise formed from metal, and is of rectangular construction and of a size to fit within the openings 8 and slots 10 of the adjacent sections. This element is centrally formed on each side with longitudinal grooves 16—16 which register with the grooves 12 and 13 previously described. The upper edge of this element is arranged flush with the surface of the treads 7 of the sections, and extending downwardly from opposite ends of the element are feet 17—17 which respectively fit within seats 18—18 formed in the inner ends of the openings 8. The length of the feet 17 is less than the

length of the seats 18 to permit of a small longitudinal movement of the sections. Attached to the bottoms of the feet 17 are contact plates 19—19 which insure a sufficient contact between the rail sections A and the bridge element B for a return current, as will be readily understood, thus avoiding the necessity of bonding the sections.

Locking keys 20—20 are each driven into the grooves 12, 13 and 16, and serve to interlock the sections A and the bridge element B together to prevent vertical movement of said sections. One end of each key 20 is formed with an enlarged angular end 21 which is adapted to engage the transverse shoulder 14 of a respective groove 13, and thereby lock said key against accidental displacement. The inner face of the opposite end of each key is slightly beveled, as at 22, to engage with the inclined face 15 of the groove 13 of the other section. As a result, when the keys are driven home, the last mentioned ends will be slightly forced outwardly so as to frictionally engage the supplemental webs 11, and thereby serve to further retain the keys against accidental movement.

From the foregoing, it will be observed that the rail joint as constructed will permit of the rail sections A to have a limited longitudinal movement for expansion purposes, yet preventing the adjacent ends of the sections from having vertical or lateral movement.

What is claimed is:

1. In a rail joint, the combination with a pair of rail sections each including a base,

web, and tread, the adjacent ends of the webs and treads being respectively formed with inwardly extending openings and slots, the openings forming consequent raised portions and seats, a bridge element fitted within said openings and slots and having a connection with the seats for permitting limited longitudinal movements of the sections, and a key having interlocking engagement with the rail sections and the bridge element for locking said sections against vertical movement.

2. In a rail joint, the combination with a pair of rail sections each including a base, web, and tread, the adjacent ends of the webs and treads being respectively formed with inwardly extending openings and slots, supplemental webs disposed on opposite sides of the adjacent ends of the webs of the sections, the inner faces of the supplemental webs being formed with longitudinal grooves, a bridge element fitted within the openings and slots of the sections and having longitudinal grooves formed on its outer face and registering with the grooves of the supplemental webs, and locking keys fitted within the respective grooves of the supplemental webs and bridge element for locking the sections and element against relative vertical movement.

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

ED ELLIS.

Witnesses:

FRANCIS BOYLE,
GEO. H. CHANDLEE.