R. S. BOHANNAN & N. DUGGER.

RAIL JOINT.

APPLICATION FILED JULY 2, 1912.

1,077,253.

Patented Nov. 4, 1913.

2 SHEETS—SHEET 1.

FIG. 1

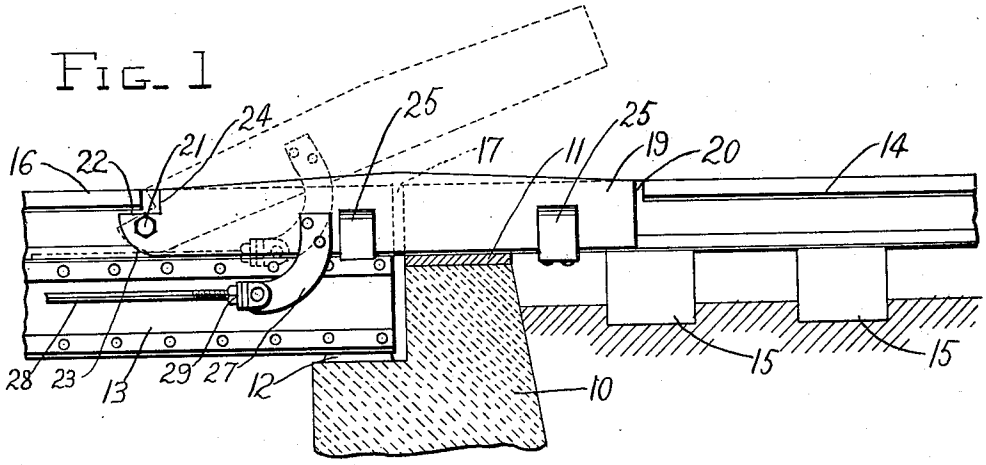


FIG. 2

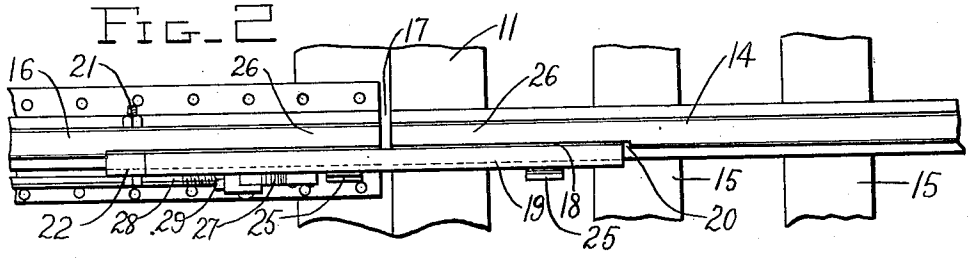


FIG. 6

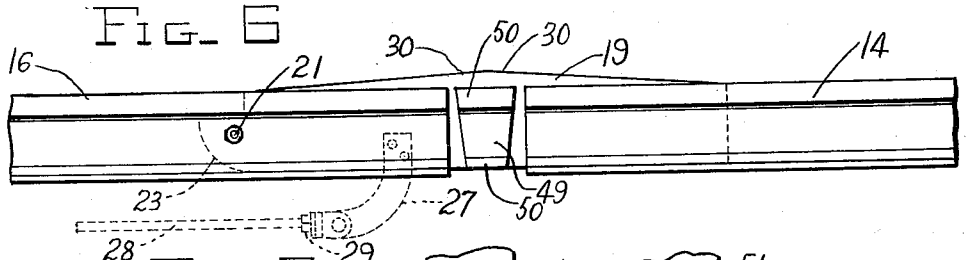
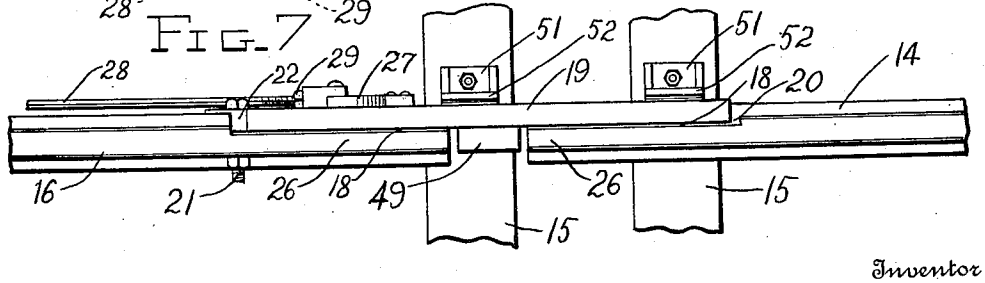


FIG. 7



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2 SHEETS—SHEET 2.

FIG. 3

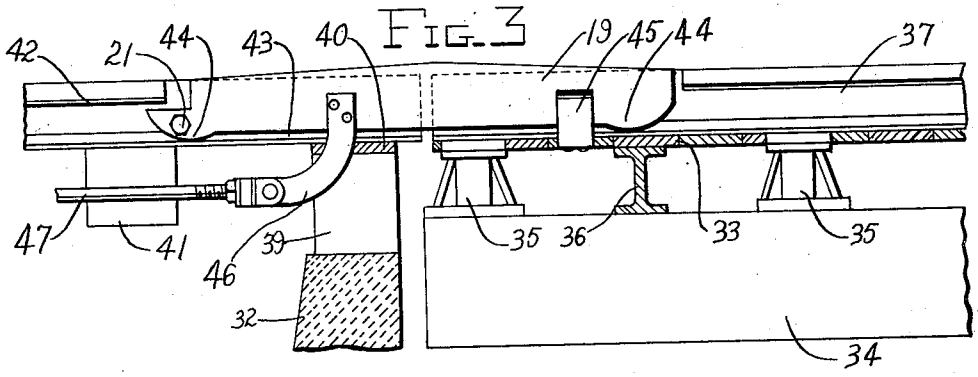


FIG. 4

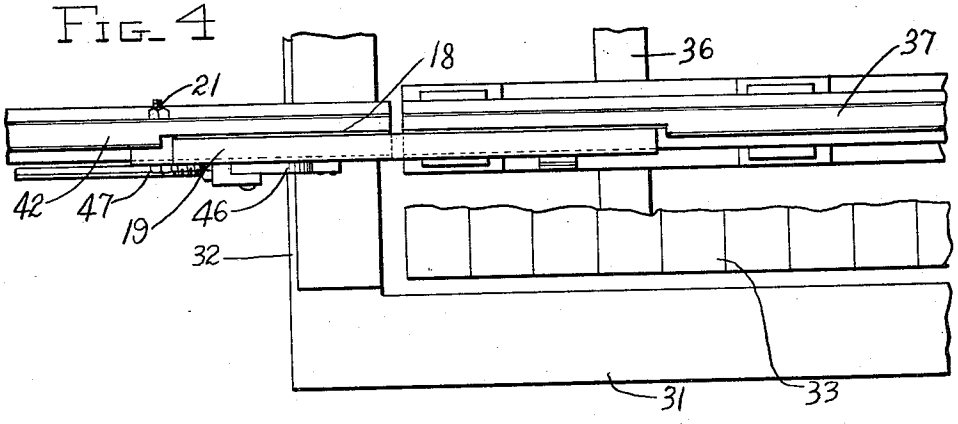


FIG. 5

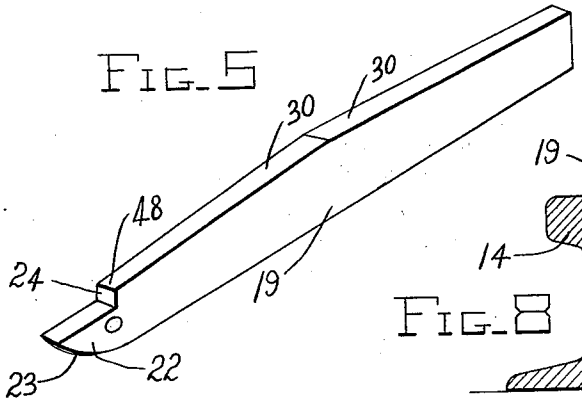


FIG. 8

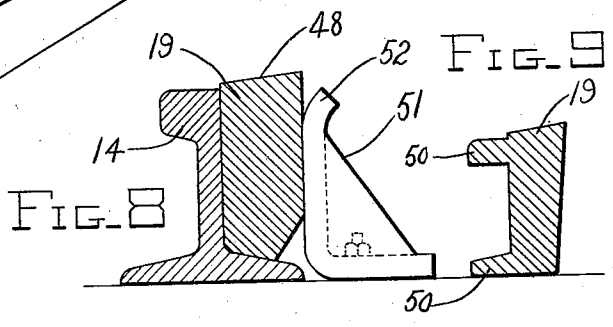


FIG. 9

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UNITED STATES PATENT OFFICE.

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RAIL-JOINT.

1,077,253. Specification of Letters Patent. Patented Nov. 4, 1913.

Application filed July 2, 1912. Serial No. 707,321.

To all whom it may concern:

Be it known that we, ROBERT S. BOHANNAN and NEAL DUGGER, citizens of the United States, residing at Ensley, in the county of Jefferson, State of Alabama, 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 will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to rail joints and more especially for those adapted for use upon trackways for railway weighing scales, draw and lift bridges, turn tables and the like and has for an object to provide an improved rail joint whereby a practically continuous rail joint, so that the abutting rail ends will be so connected as to obviate the pounding caused by the passage of the car wheels over the openings at the abutting rail ends of ordinary rail joints and which has rendered them practically useless for the purposes mentioned.

A still further object of this invention is to provide a rail joint which will positively prevent bounding of the cars as they pass off or on the joint and connected abutting end of a rail, thereby preventing derailments of the cars caused by the wheels lipping or wedging open the abutting rail ends at the joint, especially when the rails are not in proper alinement.

A still further object of the invention is to provide an improved joint which will serve to hold the meeting ends of the rails positively in proper alinement and to eliminate shock and vibration which are especially detrimental to scale and bridge mechanism and rolling stock, thereby rendering it possible to pass over bridges or other places in connection with which my improved joint is used, at a higher rate of speed than has heretofore been possible with safety.

A still further object of the invention is to provide an improved joint which is extremely simple in structure, and durable in use and which will also prevent binding of abutting rails, thereby allowing a bridge or similar movable member to be shifted with greater ease and despatch.

With the above and other objects in view the invention consists of certain other combinations and arrangements of parts as will be hereinafter more fully described and claimed, it being a still further object to provide a device which will not be likely to get out of working order.

In the drawings:—Figure 1 is a side elevation of our improved joint, showing the same in a locked position and used in connection with a draw bridge or turn table, the shiftable tread support and connecting member in an unlocked position in dotted lines so that the draw bridge or turn table may be rotated. Fig. 2 is a top plan view thereof. Fig. 3 is a view similar to Fig. 1 but showing a slightly modified construction and the device in use in connection with the platform of track scales. Fig. 4 is a view similar to Fig. 2 but showing the joint mounted adjacent to a scale pit and platform, for use as shown in Fig. 3 of the drawings. Fig. 5 is a detailed perspective view of the shiftable tread support and connecting member. Fig. 6 is a fragmentary side elevation of two abutting rail ends connected by my improved means and showing the means to prevent the car wheels and more especially the flanges thereof from lipping or striking abutting rails when they are considerably spaced apart. Fig. 7 is a top plan view thereof. Fig. 8 is a sectional view taken on the line 8—8 of Fig. 7. Fig. 9 is a detailed view of a connecting block used in the construction shown in Figs. 7 and 8 of the drawings.

Referring to the drawings by numerals, and more especially Figs. 1 and 2 thereof, 10 designates a masonry bridge structure or wall having a metallic tread plate 11 and which is also provided with a supporting ledge 12 in which one end of a bridge span is movable, the same being indicated by the numeral 13, although it is obvious that the same may be a span of a turn table or other similarly movable member. An approach rail 14 supported upon suitable ties 15 adjacent to the structure 10 is provided, it being understood that two of such rails are provided for each trackway although we have illustrated but one of such rails for the proper understanding of the invention. A rail section 16 is supported upon each span 13 and terminates at the end thereof so as to provide a gap 17 between the meeting ends of the rails, similar to the space between the spans and the vertical wall of the ledge 12 formed in the masonry structure 10. These rail sections 14 and 16 are mutilated upon common sides for a considerable length as shown at 18, the same hav-

ing their ball portions removed in a vertical line with the flange portions of the rails and adapted to receive a vertically shiftable tread support and connecting plate 19 which projects at its outer face beyond the sides of the balls of the rails as shown at 20 and is pivotally connected to the flange portion of the rails 16 by means of a bolt 21 detachably secured through the reduced end portion 22 of the plate 19 and the flange of the rail. This portion 22 is rounded upon its bottom edge as shown at 23 and its upper cut away portion 24 has its end wall spaced from the adjacent cut away portion of the rail 16 so as to allow vertical movement of the plates upon its pivot in moving from the position shown in solid lines in Fig. 1 when the rails are held against movement to the position shown in dotted lines to permit operation of the bridge or turn table. Lugs 25 are also attached to the span 13 and to the ties or other convenient points to engage the outer face of the plate 19 in order to assist in guiding the said plate during its operative movements and also to prevent movement of the bridge or turn table when the plate is in a locked position between them and the reduced ends 26 of the rail sections 14 and 16 respectively.

In order to permit operation of the plate 19 we provide an arm 27 which is attached to the outer face of the plate intermediate of its ends and preferably adjacent to its pivot point as shown, said arm extending downwardly in an inclined direction toward an operating rod 28 which is adjustably and removably attached thereto as shown at 29 so that upon longitudinal movement imparted to the rod by a suitable lever or other mechanism (not shown), the said plate will be raised or lowered in the positions described. It will also be seen from the drawings and more especially to Fig. 5 thereof, that the plate 19 is properly shaped to conform to the shape of the standard wheels for cars and it will also be noted that its upper edge is inclined upon opposite sides of its longitudinal center as shown at 30 so that the highest point of the plate at the apex or meeting point of the said inclined portions, is located slightly above the upper or tread faces of the rails, thereby removing the strain from the ends of the rail sections in passing thereover inasmuch as the said plates are mounted upon the outer sides of the rails.

In the structure shown in Figs. 3 and 4 of the drawing, the numerals 31 and 32 represent the side and end walls respectively of a scale pit in which a platform 33 is mounted for vertical movement and connected in any preferred manner with the scale beam and recorder of the scale weighing mechanism (not shown). Suitable beams 34 are arranged for movement within the pit and adapted to support suitable bolsters 35 upon which and an angle beam 36, a rail section 37 is supported longitudinally of and upon each side of the platform 33, whereby the said rail will be adapted for movement with the platform by the weight of the car and contained material therein during the weighing operation. A supporting beam 39 is mounted upon the end wall 32 and is provided with a tread plate 40 which in connection with suitable ties 41 serves to support a rail section 42, the same which is similarly cut as shown at 18 as heretofore described in connection with the rail sections 14 and 16 so as to permit the attachment of the plate 19 by the pivot bolt 21 for movement as described, but in this instance the lower portion of the plate is spaced from the supporting structure as shown at 43 and provided with circular supporting ends 44. The plate is also retained in position by the lugs 45 and if desired, an arm 46 may be secured to the plate 19 in this instance and an operating rod 47 extended in a reversed position from that heretofore described so as to shift the plate removed from the scale platform, although it is obvious that this arrangement may also be used in connection with a turn table or draw bridge. Should it be desirable that the meeting ends of the rails be a considerable distance apart for use in connection with draw and lift bridges or turn tables, so as to accommodate any defect or otherwise, we construct the said parts in a similar manner as described in connection with Figs. 1 and 2 of the drawings and with the upper face of the plate 19 beveled inwardly as shown at 48 and dispose a spacing block 49 upon the inner face of the plate 19 and provide the same with upper and lower flanges 50 adapted to rigidly support the wheels in passing over the joint and thereby avoid lipping or striking of the abutting rails and consequential derailment of the cars. In this construction we also employ a series of lugs or angular brackets 51 having outwardly curved upper extremities 52 adapted to permit proper passage of the car wheels and also to hold the plate in contact with the reduced portions 26 of the rail sections.

From the foregoing description in connection with the accompanying drawings, it will be seen that we have provided a new and improved rail joint which will be very desirable for use in connection with track scales, turn tables, draw bridges and the like and which will efficiently overcome pounding of the joints at the abutting rail ends by the passage of the car wheels thereover and which will further hold the parts in positive alinement when in a locked position as well as permitting relative move-

ment thereof and shifting of the movable part when in an unlocked position, with ease and despatch.

We claim:—

1. In a rail joint, the combination with the end of a movable rail section and a meeting end of a stationary rail section; of a plate pivoted to one of the sections and coacting with the other section to form a continuous joint, the pivoted end of the plate being provided with a lug to prevent unlimited downward movement of the plate and having a similar lug at its free end whereby said lugs will support the plate and the intermediate portion will be cushioned.

2. In a rail joint, the combination with the meeting ends of rail sections having coacting recesses vertically and continuously in common faces thereof; of a plate pivotally connected at one end to the flanged portion of one section for vertical movement into and out of the recesses and means for holding and guiding the plate in its operative movements, said means including brackets having flanged attaching portions and outwardly directed upper ends.

3. In a rail joint, the combination with two rail sections; the ends of the sections being spaced apart; of a tread member and connecting plate disposed in recesses in the sections and inclined toward opposite ends upon its upper edge, said plate being adapted for movement into and out of line with the sections and a spacing block carried by the plate between the ends of the sections.

In testimony whereof, we affix our signatures, in presence of two witnesses.

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NEAL DUGGER.

Witnesses:
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CHRIS MARRIGG.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."