J. W. BEARD.

RAIL JOINT.

APPLICATION FILED NOV. 8, 1910.

986,346.

Patented Mar. 7, 1911.

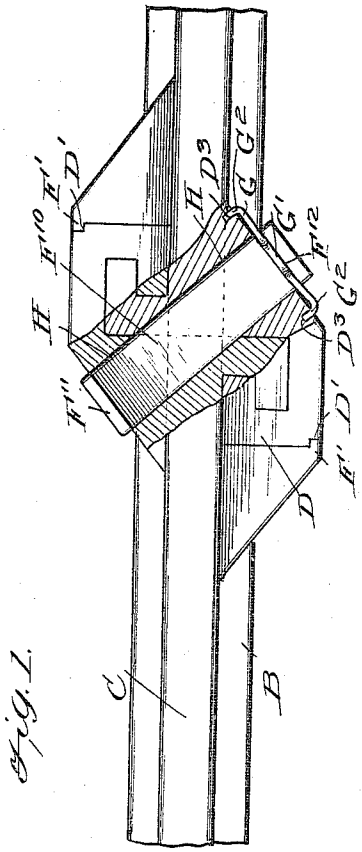

Fig. 1.

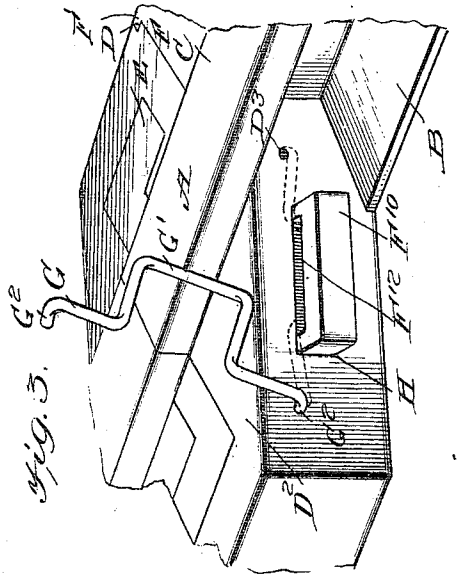

Fig. 3.

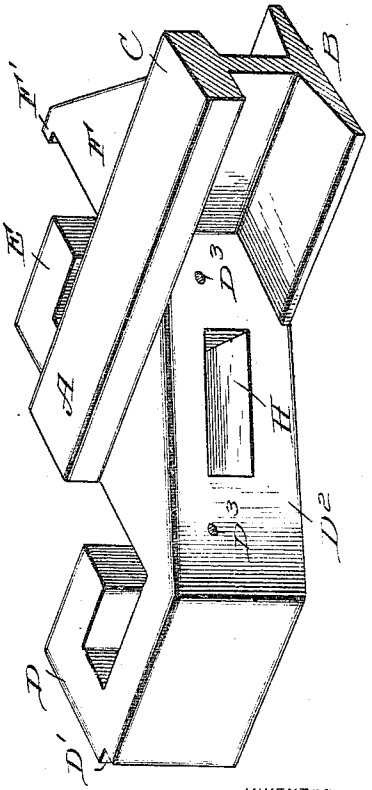

Fig. 2.

WITNESSES:

F. C. Barry

Percy B. Turpin

INVENTOR

JAMES W. BEARD

BY Munn & Co.

ATTORNEYS

UNITED STATES PATENT OFFICE.

JAMES W. BEARD, OF MERRILL, MISSISSIPPI.

RAIL-JOINT.

986,346. Specification of Letters Patent. Patented Mar. 7, 1911.

Application filed November 8, 1910. Serial No. 591,285.

To all whom it may concern:

Be it known that I, JAMES W. BEARD, a citizen of the United States, and a resident of Merrill, in the county of George and State of Mississippi, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification.

This invention is an improvement in rail joints and has for an object to provide a novel construction whereby to dispense with the ordinary fish plate construction commonly employed in uniting the meeting ends of rails.

The present invention provides a novel construction of interlocking means at the meeting ends of the rails and on opposite sides of and lateral to the tread of the rail and including in the specific construction presented rearwardly facing hooks located one longitudinally beyond the extremity of the rail and the other in rear of the rail and depressed below the upper surface of the tread of the rail whereby to avoid any interference with the wheel flange and whereby the rails when united will be interlocked at points beyond the abutting ends of the rails and in both directions beyond said joint.

The invention also provides a novel construction and arrangement of parts for bracing the meeting ends of the rails against vertical displacement.

The invention consists in certain novel constructions and combinations of parts as will be hereinafter described and claimed.

In the drawing Figure 1 is a top plan view of a joint embodying my invention, parts being broken away and others shown in section. Fig. 2 is a detail perspective view of one end of one of the rails. Fig. 3 is a detail perspective view illustrating the spring-key for securing the supporting bolt in operative position.

In carrying out my invention, the rail A may have the base B and tread C of the ordinary or any desired form, and I seek to provide interlocking means at the meeting ends of the rails, which means are movable vertically into and out of connection and when in connection with each other, lock the rails longitudinally together, suitable play being left whenever necessary or desired, to permit the expansion and contraction of the rails. In practice, I make the interlocking devices at the opposite ends of each rail alike, so that either end of any rail may be connected up with either end of any other rail, and the description of the interlocking devices at one end of a rail will suffice to an understanding of my invention when described in connection with the supporting devices and spring-key preferably employed for holding the rails at their connected ends from independent vertical movement when adjusted for use.

At the end of the rail A I provide the interlocking devices arranged on opposite sides of the rail and depressed below the upper surface of the tread C so that the interlocking devices will not interfere with the flanges of the wheels moving upon the rail. The interlocking devices are provided on opposite sides of the rail and include two rearwardly facing hooks D and E. The hook D is arranged beyond or in advance of the end of the rail while the hook E is arranged in rear of the end of the rail so that when two meeting rails are coupled, an interlocking connection is effected on opposite sides of the joint and these interlocking connections, as is manifest from Fig. 1, are alike, so that the joint is equally reinforced against strains laterally in both directions. A block or abutment F is arranged in rear of and spaced from the hook E and has at its outer end a forwardly projecting flange or lip F′ which enters a notch D′ in the outer end of the hook D and thus aids in closing the joint between the block F and the coöperating hook D of a meeting rail.

The described construction, it will be noticed, secures an interlocking of the meeting ends of the joined rails entirely outside of the tread of the rail and on both sides thereof and also at points on opposite sides of the joint between the meeting ends of the rails, thus securing the special advantages before referred to. In supporting the joint from vertical displacement, that is to say, in preventing one end of one rail, when joined as before described, from moving vertically independent of the other rail, I provide what, for convenience of reference,

I term a supporting bolt F^{10}, which is headed at one end at F^{11} and has in its opposite end a slot or opening F^{12} to receive the spring fastening key G.

The rails A are provided at their ends with diagonally disposed slots H extending horizontally through the web of the rail and through the shank D^2 or portion of the hook D which connects the same with the web of the rail, and the slots H of the meeting rails coincide when the rails are coupled up as shown in Fig. 1 and form a continuous channel extending diagonally through the rails at the meeting ends thereof, with the slots of the meeting rails communicating at the extremities of the rails so that the supporting bolt which extends diagonally across the joint of the meeting rails will support the said rails at such point and so lock them together as to prevent any independent vertical movement of the rail ends. This is an important feature, as it effectually prevents the hammering frequently experienced at the meeting ends of rails improperly joined together. At its slotted end the bolt projects beyond the shank D^2 of the hook D and receives the intermediate deflected portion G′ of the spring-key G, the ends of the said spring-key being deflected forming stud-like portions G^2 entering sockets D^3 in the shank D^2. One of these studs can be conveniently displaced to remove the key and the key may be manipulated as indicated in dotted lines in the drawing in placing and removing the said key so that the bolt can be conveniently and securely fastened in position and as easily removed whenever desired.

I claim:

1. The improvement in rail joints herein described, comprising rails provided at their meeting ends on opposite sides of their webs with rearwardly facing hooks, one of which is arranged in advance of the end of its rail and has a shank portion uniting it with the web of the rail, a horizontal slot being formed diagonally through said shank and web of the rail and leading to the end thereof and the hook on the opposite side of the rail from said first hook being arranged in rear of the end of the rail, a block being provided in rear of the latter hook and having at its outer end a forwardly projecting lip or flange adapted to enter a notch or recess in the forward end of the mating hook of the meeting rail, the said hooks of one rail being interlocked with the corresponding hooks of the other rail and the horizontal diagonally disposed slots of the two rails communicating at the meeting ends of the rails, a supporting bolt passing through said diagonally disposed slots and provided at its point end with a slot and a key having a portion operating in said slot and springing into engagement with the shank of the rail hook, all substantially as and for the purposes set forth.

2. In a rail joint, a rail having at its end and on opposite sides of its web rearwardly facing hooks, the hook on one side of the web being in advance of the end of the rail and the hook on the opposite side of the web being disposed in rear of said end of the rail, the advance hook having a shank uniting it with the web of the rail and provided with a horizontal slot disposed diagonally to the length of the rail and leading to the end of the rail, substantially as set forth.

3. A rail joint comprising rails having at their meeting ends interlocking means adapted to permit the vertical movement of the rails into and out of connection and a supporting bolt disposed diagonally to the length of the rails and extending across the joint at the meeting ends of the rails, substantially as set forth.

4. A rail joint comprising rails having at their meeting ends interlocking devices adapted to permit the movement of the rails vertically into and out of connection and a diagonally disposed supporting bolt, substantially as set forth.

5. In a rail joint, a rail provided at its ends with means adapted to secure the interlocking therewith of a meeting rail and having a horizontal slot disposed diagonally to the length of the rail and leading to the end thereof, substantially as set forth.

6. A rail having at its end interlocking means on opposite sides of its web with the means on one side of the web projecting in advance of the end of the rail and the means on the other side disposed in rear of the end of the rail and adjacent thereto and having a horizontal slot disposed diagonally to the length of the rail and opening at the end thereof, substantially as set forth.

7. The improvement in rail joints herein described, comprising rails provided at their meeting ends and on opposite sides of their webs with rearwardly facing hooks, one of said hooks being arranged in advance of the end of its rail and having a shank portion uniting it with the web of said rail, a horizontal slot being formed diagonally through the shank and the web of said rail and extending to the end thereof, and the opposite hook being arranged in rear of the end of the rail, a block on the rail in rear of the latter hook, the horizontally disposed slots of the two rails communicating at the meeting ends thereof and a supporting bolt passed through said diagonally disposed slots and secured, substantially as set forth.

8. A rail joint comprising rails provided

at their meeting ends on opposite sides of their webs with rearwardly facing hooks, one of which is arranged beyond and the other in rear of the end of their respective rails, the rails being interlocked by a relative vertical movement of their meeting ends with the interlocking connections on opposite sides of the webs disposed on opposite sides of the joint, substantially as set forth.

JAMES W. BEARD.

Witnesses:
SOLON C. KEMON,
PERRY B. TURPIN.