No. 819,537. PATENTED MAY 1, 1906.

J. GABRIEL.

RAILWAY RAIL JOINT.

APPLICATION FILED DEC. 13, 1905.

Fig. 1.

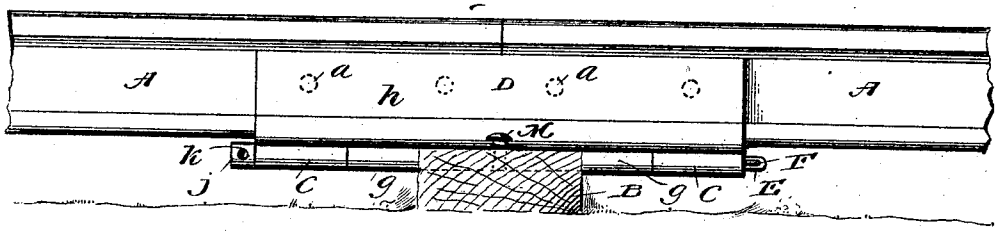


Fig. 2.

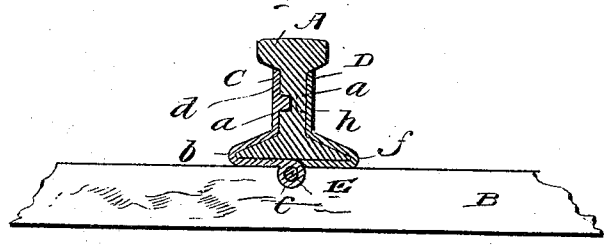


Fig. 3.

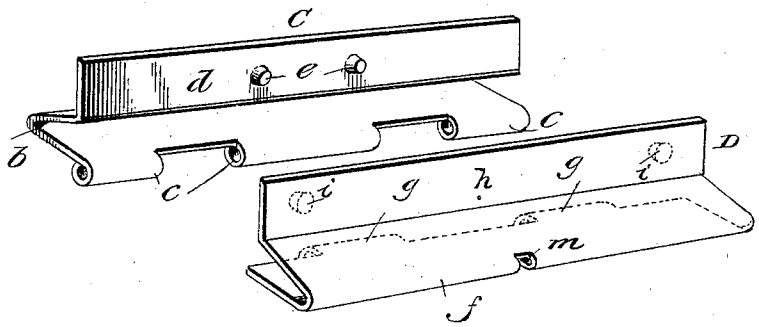
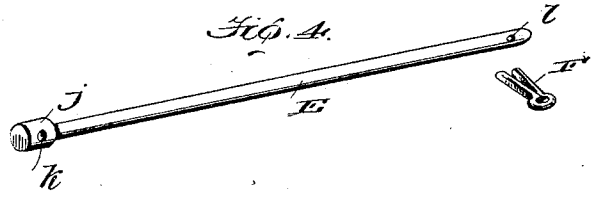


Fig. 4.



Witnesses.

W. C. Healy

Inventor.

John Gabriel.

by James J. Healy

Atty.

ANDREW. B. GRAHAM CO., PHOTO-LITHOGRAPHERS. WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN GABRIEL, OF NEW ORLEANS, LOUISIANA.

RAILWAY-RAIL JOINT.

No. 819,537. Specification of Letters Patent. Patented May 1, 1906.

Application filed December 13, 1905. Serial No. 291,620.

To all whom it may concern:

Be it known that I, JOHN GABRIEL, a citizen of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented new and useful Improvements in Railway-Rail Joints, of which the following is a specification.

My invention pertains to rail-joints of the chair type; and it consists in the peculiar and advantageous joint hereinafter described, and particularly defined in the claims appended, in which the necessity of employing bolts to connect the chair and the meeting ends of two rails is obviated.

In the accompanying drawings, forming part of this specification, Figure 1 is a side elevation of the rail-joint constituting the present and preferred embodiment of my invention. Fig. 2 is a transverse section of the same. Fig. 3 comprises disconnected perspective views of the chair-sections of the joint, and Fig. 4 comprises disconnected perspective views of the rod for connecting the said chair-sections and the cotter-pin for holding the said rod against casual displacement.

Similar letters designate corresponding parts in all of the views of the drawings, referring to which—

A A are two railway-rails, each of which is provided in its web at points adjacent to one of its ends with transverse sockets *a*.

B is a sleeper or tie disposed below the meeting ends of the rails A and having a notch or groove in its upper side, Fig. 2, to accommodate the barrels of the joint, and C and D are the sections of the chair embodied in the novel joint.

The chair-section C is best shown in Fig. 3 and is formed in one piece of steel or any metal suitable to the purpose. It comprises a portion *b* of approximate **V** shape in cross-section arranged to straddle and snugly receive one side of the bases of the rails, three (more or less) longitudinally-disposed barrels *c*, formed at the lower edge of the **V**-shaped portion *b*, and a fish-plate portion *d*, extending vertically from the upper edge of the **V**-shaped portion *b* and having lateral lugs *e* on its inner side arranged to enter the sockets *a* nearest the ends of the rails A. The chair-section D, which is also best shown in Fig. 3, comprises a **V**-shaped portion *f*, adapted to snugly receive the opposite side of the bases of the rails with reference to the section C, barrels *g*, formed on the lower edge of the portion *f* and adapted to be arranged between and in alinement with the barrels *c* of the section C, and a fish-plate portion *h*, extending upwardly from the upper edge of the **V**-shaped portion *f* and having lateral lugs *i* on its inner side arranged to enter those sockets *a* which are farthest from the ends of the rails.

In addition to the rails A and the chair-sections C and D my novel joint comprises a longitudinal rod E and means, preferably a cotter-pin F, for holding the said rod E against casual displacement. The rod E is provided at one end with a head *j*, in which is a socket *k*, designed to receive an implement suitable for the purpose of loosening the rod, while adjacent to the end of the rod remote from the head *j* is provided an aperture *l*, designed to receive the before-mentioned cotter-pin F.

In assembling the parts of my novel chair-joint the chair-sections C and D are arranged at opposite sides of the meeting ends of the rails A and so that the barrels of said chair-sections are coincident or in alinement with each other, while the lugs *e* and *i* thereof rest in the sockets *a*, provided in the webs of the rails. After the rails A and the chair-sections C and D are relatively arranged and engaged with each other in the manner stated the rod E is sheathed in the alined barrels of the chair-sections and the cotter-pin F is placed in the aperture *l* of the rod E. With this done it will be apparent that the chair-sections C and D and the rails A are connected in such a manner that there is no liability of any of the said parts being disconnected or worked loose by the shocks and jars to which rail-joints are ordinarily subjected, and it will also be apparent that the connection of the chair-sections to the rails does not entail the employment of bolts or the like, which will be appreciated as an important advantage when it is remembered that the liability of bolts to work loose is the frequent cause of railway-joints becoming impaired and inefficient.

I prefer for obvious reasons to arrange my novel rail-joint above the sleeper or tie B, and in order that the chair may be strongly connected to the sleeper or tie, with a view of preventing creeping or casual endwise movement of the former, I provide notches *m* in the bights or turns of the **V**-shaped portions *b* and *f* of the chair-sections C and D, respectively, and drive spikes M through said

notches and into the sleeper or tie, as shown in Fig. 1.

The chair-sections C and D are made of resilient metal, and the mouths of the V-shaped portions thereof are of a less width than the thickness of the base of the rail at the points where said base merges into the web. From this it follows that a screw-clamp or vise is necessary to place the chair-sections C and D in proper position relative to the rail; but when the pin E is driven home said clamp or vise may be removed. It also follows that downward pressure applied on the tread of the rail is distributed over these sections C and D, the downward pressure at the point where the V-shaped portions join the upright portions and at the point where the sections are connected by the pin E causing an inward pressure of the upright portions of the chair-sections and assuring said upright portions tightly holding the web of the rail between them.

I claim—

1. The combination of a rail, chair-sections of resilient metal, having V-shaped portions, the mouths of which are normally of a less width than the thickness of the rail-base at the points where said base merges into the web, placed under tension on the base of the rail, and also having fish-plate portions extending upwardly from the V-shaped portions, and alined barrels on said V-shaped portions below the rail, a longitudinal rod arranged in the said alined barrels of the chair-sections and connecting the same together, and coöperating means on the fish-plate portions of the chair-sections and the rail for holding said chair-sections and rail against endwise movement with respect to each other.

2. The combination of a sleeper or tie having a notch or groove in its upper side, rails having sockets in their webs, chair-sections of resilient metal, having V-shaped portions, the mouths of which are normally of a less width than the thickness of the rail-bases at the points where said bases merge into the webs, placed under tension on the bases of the rails, and also having fish-plate portions extending upwardly from the V-shaped portions and equipped with lugs seated in the sockets of the rail-webs, and further having alined barrels arranged on the V-shaped portions below the rails and arranged in the notch or groove of the sleeper or tie, and a longitudinal rod arranged in the said alined barrels of the chair-sections and connecting the same together.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN GABRIEL.

Witnesses:
JOSEPH GALOERINA,
GEO. M. ADAMS.