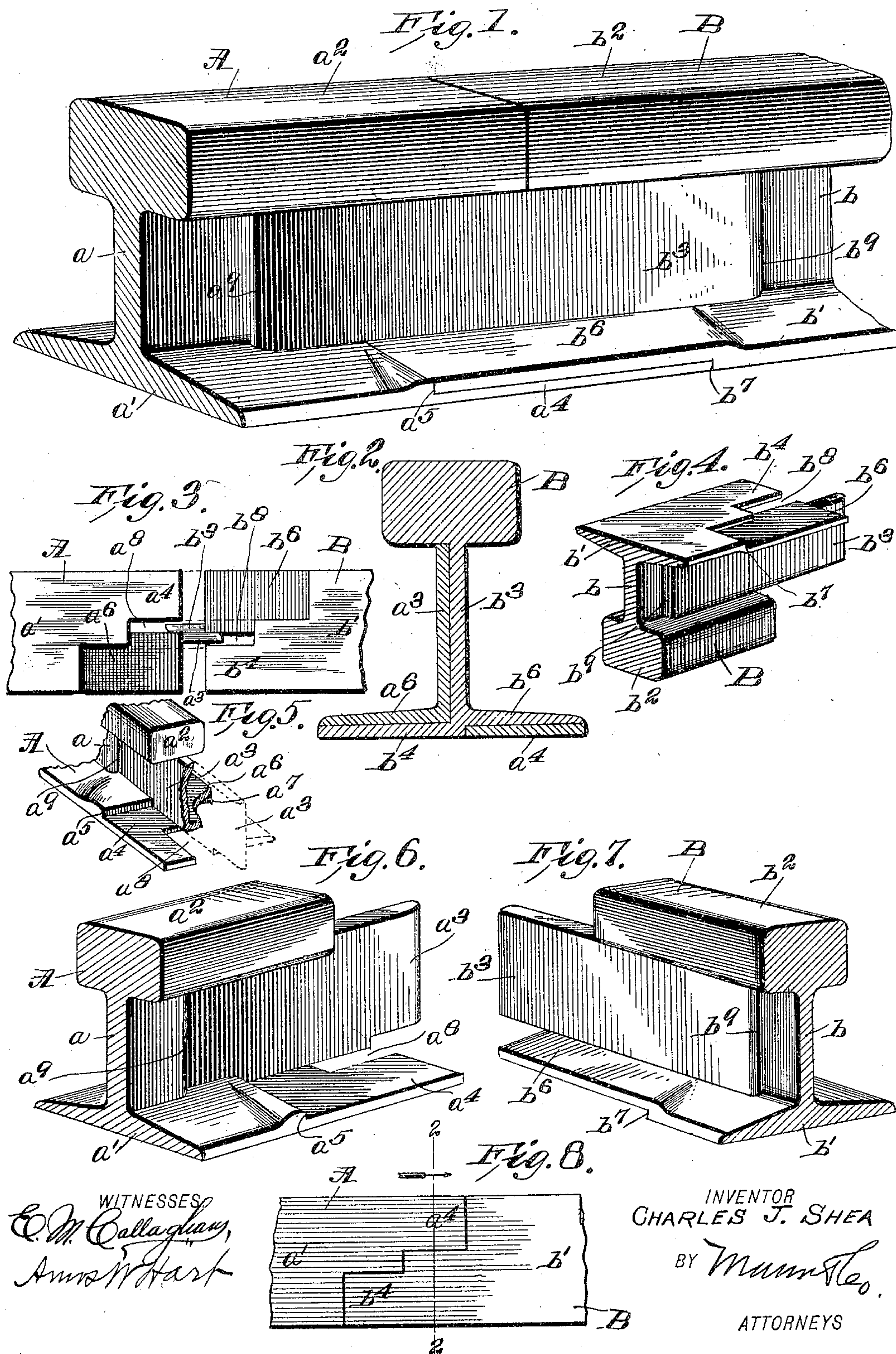


No. 808,580.

PATENTED DEC. 26, 1905.

C. J. SHEA.  
RAIL JOINT.

APPLICATION FILED AUG. 9, 1905.





# UNITED STATES PATENT OFFICE.

CHARLES J. SHEA, OF FREEPORT, NEW YORK.

## RAIL-JOINT.

No. 808,580.

Specification of Letters Patent.

Patented Dec. 26, 1905.

Application filed August 9, 1905. Serial No. 273,378.

*To all whom it may concern:*

Be it known that I, CHARLES J. SHEA, a citizen of the United States, residing at Freeport, in the county of Nassau and State of New York, have made certain new and useful Improvements in Rail-Joints, of which the following is a specification.

My invention is an improvement in that class of rail-joints in which bolts, nuts, and fish-plates are dispensed with, the meeting ends of the rails being provided with interlocking tongues or projections.

I have devised a new and improved construction and arrangement of parts whereby rail ends are so engaged as to be more firmly supported vertically and also held in more rigid alinement laterally.

The details of construction and arrangement of parts are as hereinafter described, and illustrated in accompanying drawings, in which—

Figure 1 is a perspective view of a portion of the meeting ends of two rails interlocked by my improved means. Fig. 2 is a cross-section on the line 2 2 of Fig. 8. Fig. 3 is a plan view of the under side of the meeting ends of the rails, the same being shown slightly separated. Fig. 4 is a perspective view of one of the rail ends inverted. Fig. 5 is a perspective view of a rail end, a portion being broken away. Figs. 6 and 7 are perspective views of the respective ends of the meeting rails. Fig. 8 is a plan view of the under side of the rails when adjusted together to form the joint.

A B indicate the meeting ends of two rails which are provided with interlocking means, as will be hereinafter described. The ends of the rails are constructed precisely alike, and hence for most purposes the description of one will suffice for both.

Referring particularly to Figs. 1 and 6,  $a$  indicates the ordinary central web of rail A, and  $a'$  the usual base or base-flanges thereof extended laterally, while  $a^2$  indicates the head or tread portion. The web  $a$  is practically continued by what may be called the "tongue"  $a^3$ , the same projecting beyond the head  $a^2$  and also being set off, or laterally, from the ordinary web  $a$ , so that the two are out of alinement. On one side of this web-tongue  $a^3$  the flange  $a^4$  of the rail is cut away, Figs. 5 and 6, on the upperside, so that a shoulder is provided at  $a^5$ . In a similar way the opposite base-flange is cut away on the under side, as at  $a^6$ , thus forming a shoulder  $a^7$ . In

other words, while the rail end A presents two base-flanges extended and provided with shoulders they are reduced in thickness and provided with shoulders on opposite sides, one on the upper side and one on the lower. Between the front end of the two base extensions  $a^4$  there is provided an open-end longitudinal slot  $a^8$ . (See Figs. 3, 4, 5, and 6.) For the sake of clearer illustration the parts of the rail end B are marked with letters  $b$  to  $b^9$ , inclusive, corresponding to the marks applied to the rail end A. It will now be understood that when the rail ends are brought into alinement they may be forced together so as to meet, as indicated in Figs. 1 and 8, and that in such case the web-tongue  $b^3$  passes alongside the web-tongue  $a^3$  and lies in close contact therewith, the beveled end of  $b^3$  abutting the shoulder  $a^9$  of the web  $a$ , while the similar end of  $a^3$  similarly abuts the shoulder  $b^9$  of the web  $b$ ; also, the raised base-flange or extension  $b^6$  of rail B passes over the reduced base-flange  $a^4$  and abuts the shoulder  $a^5$  of rail A, while the opposite flange  $b^4$  of the rail B passes under the other portion  $a^6$  of the flange of A. Thus the overlapping and underlying base-flanges of the rail ends prevent each rail from rising or being depressed, and the web-tongues  $a^3$   $b^3$  also aid in this, since their upper and lower edges lie in contact with the head and base of the opposite rail. By the provision of the longitudinal slots  $a^8$  and  $b^8$  in the respective rail ends provision is made for reception of a corresponding portion or tongue of the opposite rail, which is an important factor in preventing lateral movement or displacement of the rail ends.

By the construction, arrangement, and combination of parts illustrated and described I form a rail-joint which is firm or rigid in both lateral and vertical directions.

What I claim is—

1. The improved rail-joint comprising meeting rail ends constructed in duplicate, each having a web-tongue or projection offset laterally and thus out of alinement with the central web of the rail but parallel to the plane of said web, and base-flanges or extensions arranged on opposite sides of the said tongue, one being cut away on the upper side and provided with a shoulder and the other cut away on the under side and similarly provided with a shoulder, substantially as described.

2. The improved rail-joint comprising

meeting rail ends constructed in duplicate,  
each having a web-tongue or projection off-  
set laterally and thus out of alinement with  
the central web of the rail but parallel to the  
5 plane of said web, base-flanges or extensions  
arranged on opposite sides of the said tongue,  
one being cut away on the upper side and  
provided with a shoulder and the other cut  
away on the under side and similarly pro-

vided with a shoulder, and an open longitu- 10  
dinal slot located between the two opposite  
base-flanges or extensions, substantially as  
described.

CHARLES J. SHEA.

Witnesses:

NATHAN COHEN,  
GEO. J. QUINN.