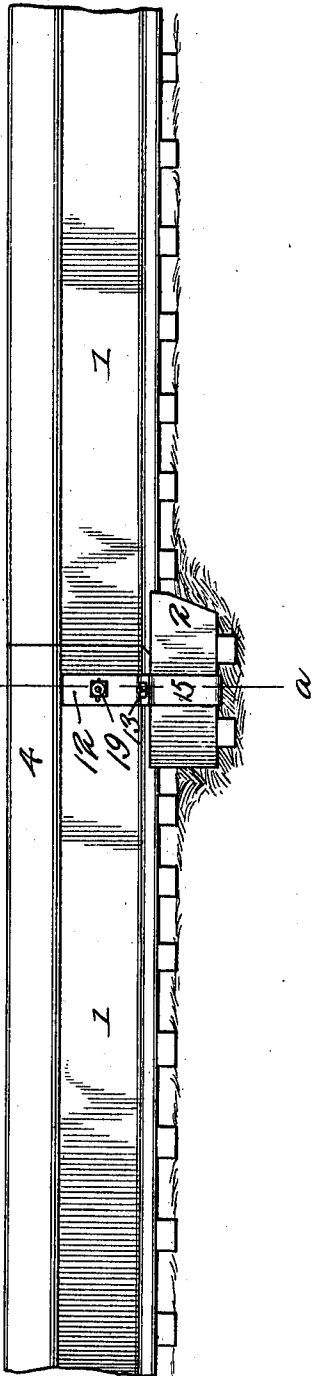


RAIL JOINT.

**980,065.**

Patented Dec. 27, 1910.



Thank B. Hoffmans  
J. W. Garner

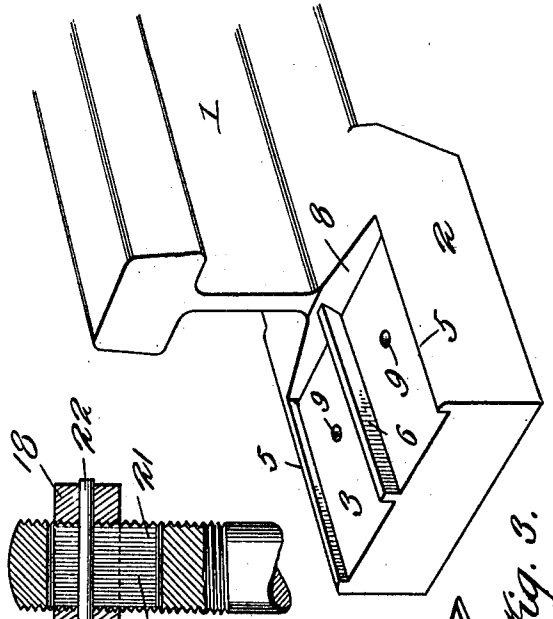
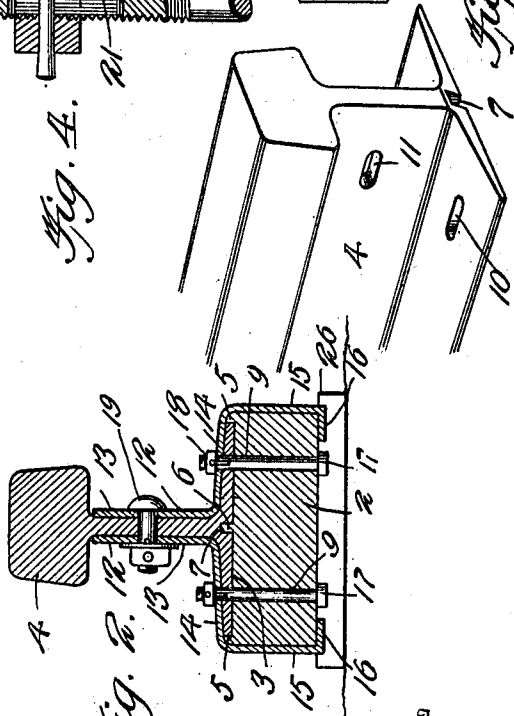


Fig. 4.



Invenor  
 Thomas A. Chapman,

By Victor J. Evans.

Attorney

# UNITED STATES PATENT OFFICE.

THOMAS A. CHAPMAN, OF CRIGLERSVILLE, VIRGINIA, ASSIGNOR OF ONE-THIRD TO  
JAMES A. STROTHER, OF WELCH, WEST VIRGINIA.

## RAIL-JOINT.

980,065.

Specification of Letters Patent.

Patented Dec. 27, 1910.

Application filed December 18, 1909. Serial No. 533,789.

*To all whom it may concern:*

Be it known that I, THOMAS A. CHAPMAN, a citizen of the United States, residing at Criglersville, in the county of Madison and State of Virginia, have invented new and useful Improvements in Rail-Joints, of which the following is a specification.

This invention is an improved rail joint and consists in the construction, combination and arrangement of devices hereinafter described and claimed.

In the accompanying drawings:—Figure 1 is an elevation of the meeting ends of a pair of railroad rails constructed in accordance with my invention and in connection with my improved devices for securing the rail ends together. Fig. 2 is a vertical sectional view of the same on the plane indicated by the line *a—a* of Fig. 1. Fig. 3 is a detail perspective view of the rail ends, showing the same detached from each other and disposed at different angles. Fig. 4 is a detail sectional view of one of the securing bolts.

In accordance with my invention, I provide each railroad rail 1 with a longitudinally extended foot 2 at its base, at one end, which foot also extends vertically below the rail and is provided in its upper side at said end of the rail with a longitudinal pocket 3 which serves as a pocket for the reception of the end 4 of the next adjacent rail. The base end 4 of the next adjacent rail lying in the pocket 3, the foot 2 forms an underlapping connection or joint between the rail ends and also a support for the rail end 4. The pocket 3 has its horizontally straight face parallel with the under face of the base flange of the rail upon which it is formed and is provided with side flanges 5 to engage the outer edges of the base flanges of the rail end 4 and at the center of said pocket 3 and rising therefrom is a tongue 6 which is formed integrally with the foot 2 and engages a longitudinal groove 7 in the base of the rail end 4 so that the said tongue 6 co-acts with the groove 7 of the rail end 4 and with the side flanges 5 of the foot 2 to prevent lateral movement of either rail end. Preferably the inner wall 8 of the pocket 3, corresponding with the end of the base portion of the rail is inclined and the base of the rail end 4 is correspondingly inclined. Vertical bolt holes 9 extend through the foot 2. The base flanges of the rail end

4 are provided with longitudinal slots 10 which register with said bolt holes 9. The web of the rail end 4 is also provided with a longitudinal slot 11. I also provide fish bars 12 to secure the rail ends together. Each fish bar comprises a vertical upper portion 13 to bear against one side of the web of the rail and an outwardly extending intermediate portion 14 to bear on the upper side of one of the base flanges of said rail end, a downwardly extending vertical lower portion 15 to bear against one side of the foot 2 of the next adjacent rail end and an inwardly extending hook 16 to engage the under side of said foot. Bolts 17 extend through the registering bolt holes 9 of the foot and slots 10 of the rail end 4 and also through openings in the fish bars and are here shown as having their heads bearing against the under side of the foot and their upper ends provided with nuts 18 which bear on the intermediate portions 14 of the fish bars and are screwed on the bolts. A bolt 19 passes through openings in the upper portions 13 of the fish bars and through the slot 11 of the rail end 4 so as to secure said upper portions of the fish bars to opposite sides of the web of said rail end 4.

In practice, and in accordance with my invention, I provide each bolt in its threaded portion with a longitudinal slot 21 and I also provide in connection with each bolt a locking pin 22 which is passed through one of the said bolts and placed in openings with which the nut is provided, the said locking pin co-acting with the engaged slot of the bolt to prevent the nut from casually turning and, hence, securely locking the nut in place.

Having thus described the invention, what is claimed is—

The combination with the meeting ends of a pair of rails, one of said rails being provided with an integrally formed longitudinally extending foot, said foot having its upper face depressed and being provided with a central longitudinally extending tongue, said depressed portion of the foot being provided between the outer flanges and the tongue with openings, the co-acting rail having its base provided with a longitudinally extending recess arranged directly beneath its web, the base flanges of the said co-acting rail being further provided with longitudinally extending recesses adapted to

aline with the openings within the foot, fish  
plates for the sides of the rail and the  
foot, said fish plates comprising an under-  
lying portion, a vertical extension, an over-  
5 lying flange and a web engaging portion, the  
overlying flanges of the fish plates being  
provided with openings, bolts for the open-  
ings within the foot, the co-acting rail and  
the overlying flange of the fish plates, nuts

for these bolts, and means for connecting the 13  
web engaging flanges of the fish plates with  
the webs of the co-acting rail.

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

THOMAS A. CHAPMAN.

Witnesses:

G. H. TAYLOR,  
F. P. SMITH.