L. DOAK.

RAIL JOINT.

APPLICATION FILED APR. 25, 1910.

978,711.

Patented Dec. 13, 1910.

Fig. 1.

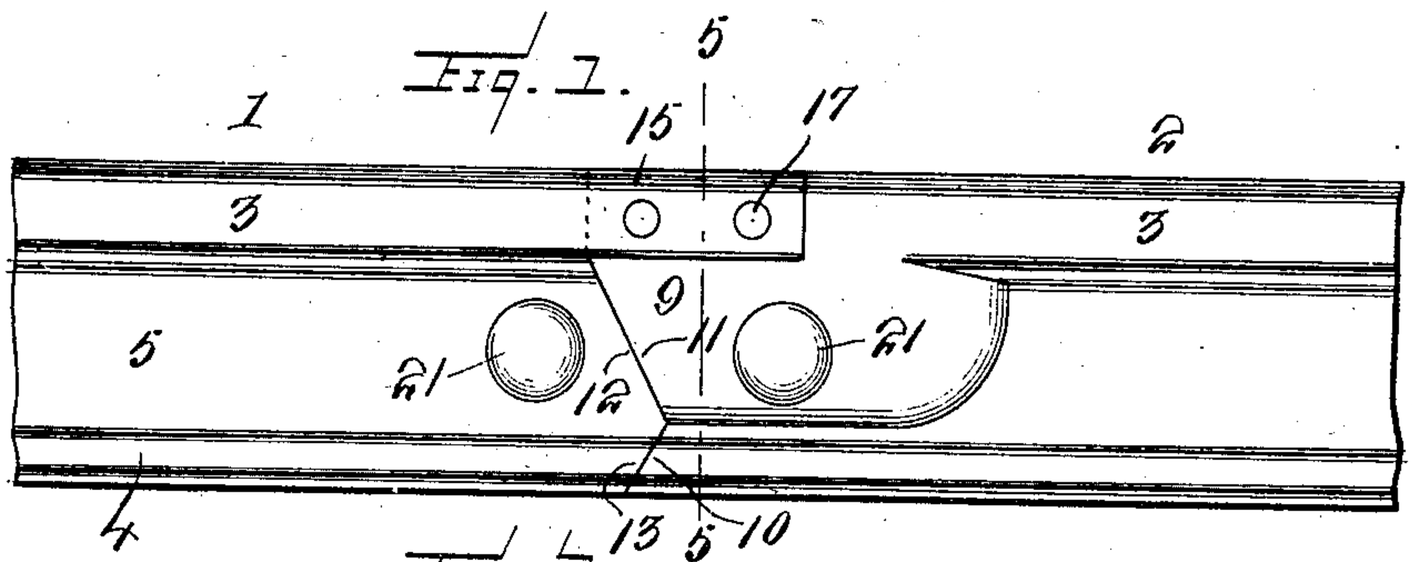

Fig. 2.

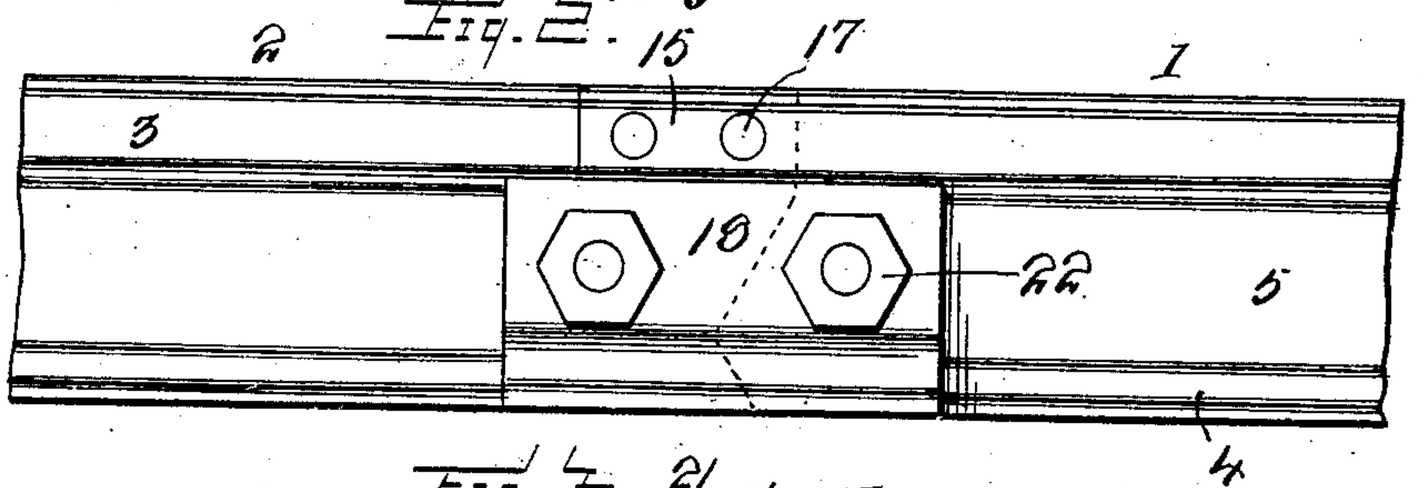

Fig. 3.

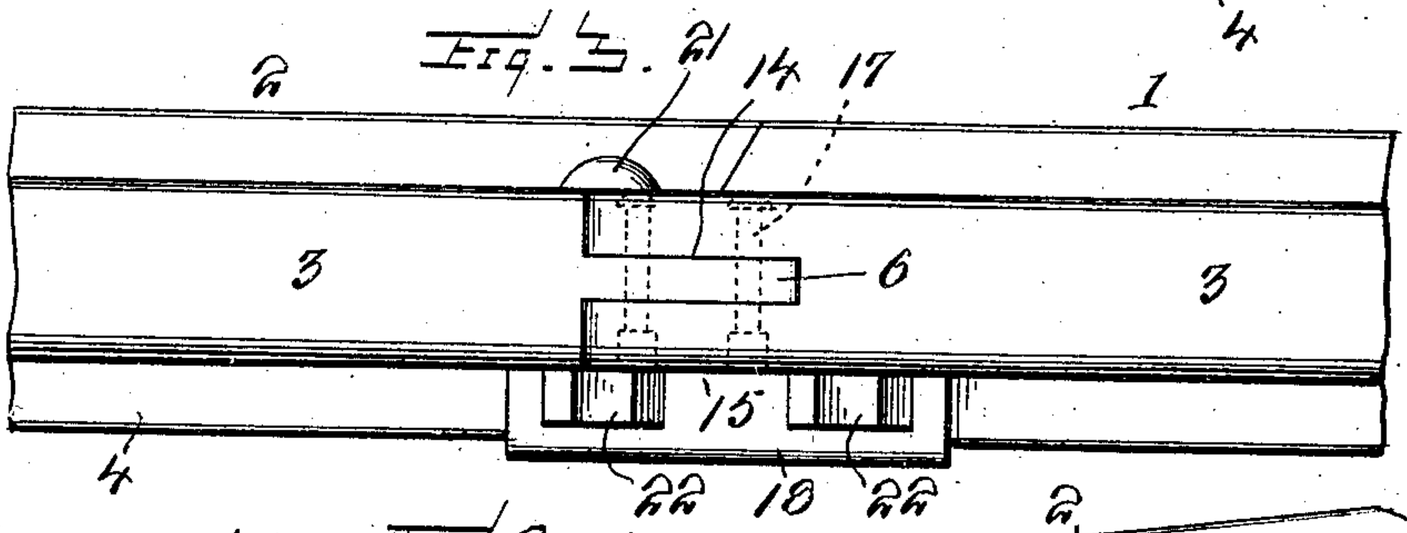

Fig. 4.

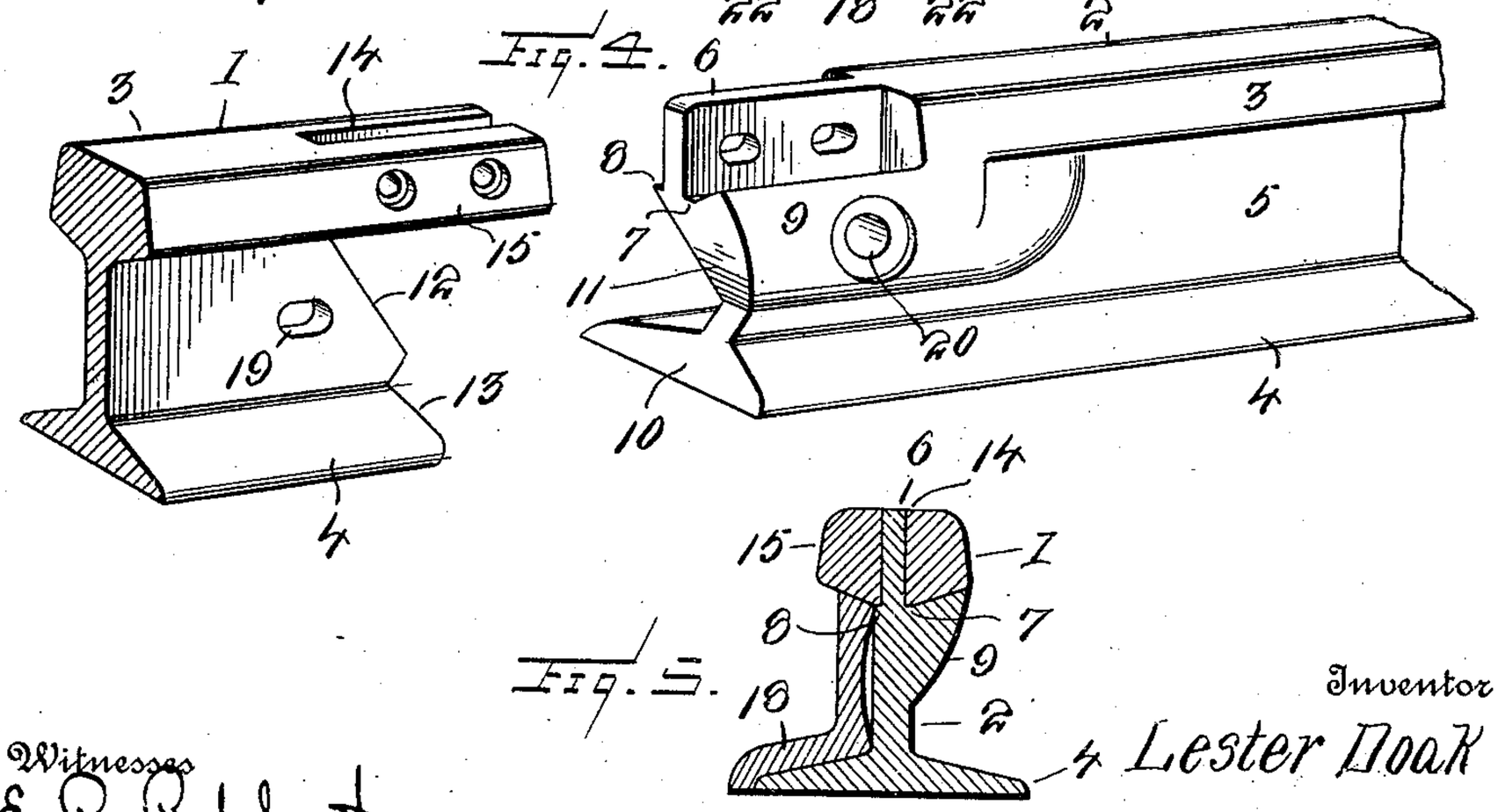

Fig. 5.

Witnesses

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UNITED STATES PATENT OFFICE.

LESTER DOAK, OF McMINNVILLE, TENNESSEE.

RAIL-JOINT.

978,711. Specification of Letters Patent. **Patented Dec. 13, 1910.**

Application filed April 25, 1910. Serial No. 557,534.

To all whom it may concern:

Be it known that I, LESTER DOAK, a citizen of the United States, residing at McMinnville, in the county of Warren and State of Tennessee, have invented new and useful Improvements in Rail-Joints, of which the following is a specification.

This invention relates to rail joints, and the primary object is to provide improved means for connecting the meeting ends of railway rail sections in such a manner as to provide a practically continuous tread surface for the rails.

A further object of the invention is to provide the meeting ends of railway rails with interlocking recesses and projections, without weakening the ends of the rails, and at the same time effectively preventing the lateral movement of the rails or the sagging thereof, incident to the rolling stock passing over the joint, thus materially increasing the life of the rails, and at the same time, greatly adding to the comfort of the traveling public.

With the above, and other objects in view, which will appear as the description progresses, the invention resides in the novel features of construction, hereinafter fully described and claimed.

In the accompanying drawings, there has been illustrated a simple and preferred embodiment of the improvement, and in which drawings:—

Figure 1 is a side elevation of a pair of railway rails, constructed in accordance with the present invention, and showing the same in their connected position; Fig. 2 is a similar view, looking toward the opposite sides of the rails; Fig. 3 is a top plan view of the same; Fig. 4 is a perspective view of the coacting rail ends, showing the same separated; Fig. 5 is a sectional view, taken upon the line 5—5 of Fig. 1.

In the accompanying drawings, the numerals 1 and 2 designate a pair of railway rails. These rails have their bodies constructed in the usual manner, each comprising a head 3, base flange 4, and connecting web 5.

The head 3 of the rail 2 is formed with a centrally arranged longitudinally extending reduced tongue 6. This tongue 6 has its side walls parallel, and the said walls are of a width approximately equaling the depth of the head of the rail. The web 5 of this rail 2 is enlarged upon both of its faces, as designated by the numerals 7 and 8. The upper wall of the enlargement 7 is inclined downwardly toward the reduced tongue 6, as indicated by the numeral 9, while the upper wall provided by the member 8 is substantially horizontal.

The base flange of the rail section 2, as well as a portion of its enlargement 7, are beveled as at 10. This beveled wall inclines toward the web of the rail, and the enlargement 7, at its juncture with the said beveled wall 10, is inclined or beveled upwardly, as designated by the numeral 11. These oppositely beveled walls 10 and 11 are adapted to serve as a pocket for similarly inclined walls 12 and 13 formed upon the web and base flange of the opposite rail section 1.

The section 1 has its head 3 projecting beyond its web a distance corresponding to the length of the tongue 6, and said projecting portion is centrally cutaway or bifurcated, as at 14. The cut-away portion is of a width corresponding to the thickness of the tongue 6, and the under faces of the sides 15 provided by the said bifurcation are inclined downwardly, so as to provide substantially beveled lips which are adapted to engage with the walls 8 and 9 of the enlargement 7 of the rail section 2. The members 15, as well as the tongue 6, are each provided with suitable alined openings, and the said openings are adapted for the reception of retaining members 17.

It will be noted by reference to Fig. 4 of the drawings, that the openings within the members 15 are countersunk, and the members 17 have their ends provided with beveled heads to engage the said countersunks, thus providing a smooth surface upon both of the faces of the heads of the rails.

In order to effectively connect the webs and base flanges of the rails, I have provided an angle fish plate 18 which is adapted to be positioned upon the webs and base flanges of the rail sections opposite to the enlargement 7 upon the section 2. The vertical wall of the fish plate 8, as well as the web 5 of the rail section 1 and the enlargement 7 of the rail section 2, are provided with bolt openings 19 and 20, the same being adapted for the usual securing bolts 21 provided with nuts 22.

From the above description, taken in connection with the accompanying drawings, it will be noted that I have provided a comparatively simple, inexpensive and thor-

oughly efficient rail joint, and while I have illustrated and described the preferred embodiment of the improvement, as it now appears to me, minor details of construction, within the scope of the appended claims, may be resorted to, without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described the invention, what I claim is:

1. The combination of two railway rails, one of said rails having its head provided with a longitudinally extending tongue adjacent its end, the said rail having its web and base flange inclined in opposite directions to provide a pocket, the opposite rail section having its base flange and web inclined to correspond with the pocket of the first rail section, the head of the second rail being extended beyond its web and the said extension being centrally bifurcated to engage the tongue of the first section.

2. The combination of two railway rails, one of said rails having its head provided with a centrally arranged longitudinally extending tongue, the web of the rail being provided with an enlargement having its upper walls communicating with the tongue, the enlargement and the base flange of the rail being inclined inwardly to provide a pocket, the second rail section having its web and base flange inclined to fit within the pocket of the first rail section, the head of the second rail section being projected beyond its web and being bifurcated to engage the tongue and the walls provided by the first rail section.

3. The combination of two railway rails having their tread portions connected by a tongue formed on one rail, the said rail being further provided with a tapering recess, and a tapering tongue projecting from the opposite rail section and adapted to engage the recess of the first rail section, a fish plate for the base flanges and webs of the rails, and transversely arranged securing members for the treads of the rails.

4. The combination of two railway rails, one of said rails having its head provided with a centrally arranged longitudinally extending tongue, the web of said rail having a longitudinally extending enlargement, the upper wall of the enlargement upon one side of the tongue being inclined toward the tongue, the upper wall adjacent the opposite side of the tongue being horizontally straight, the tongue and the enlargement of the rail having openings, the said enlargement and the web and the base flange of the rail being beveled inwardly to provide a V-shaped pocket, the base flange and web of the opposite rail section being beveled to provide a substantially V-shaped tongue adapted to be received within the said pocket, the second rail section having its head portion extending beyond its web a distance corresponding with the length of the tongue of the first section, the beveled head of the second rail section being provided with a central opening extending beyond its web a distance corresponding with the length of the tongue of the first section, the projecting head portion of the second rail being provided with a central longitudinally extending opening, the sides of the head adjacent this opening being provided with transversely arranged perforations, the under faces of one of the sides of the projecting head being inclined to engage the inclined wall of the enlargement of the first section when the rails are connected, the web of the second section having an opening, connecting members for the transverse openings of the rail sections, an angle fish plate upon one side of the rails and securing elements engaging the openings in the enlargement and in the webs of the rail section for the fish plate.

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

LESTER DOAK.

Witnesses:
BENNETT S. JONES,
WM. J. KOERTH.