T. A. NICHOLSON & W. B. PIERSON.

INTERLOCK CONTINUOUS RAIL JOINT.

APPLICATION FILED SEPT. 23, 1908.

919,452. Patented Apr. 27, 1909.

Fig. 1.

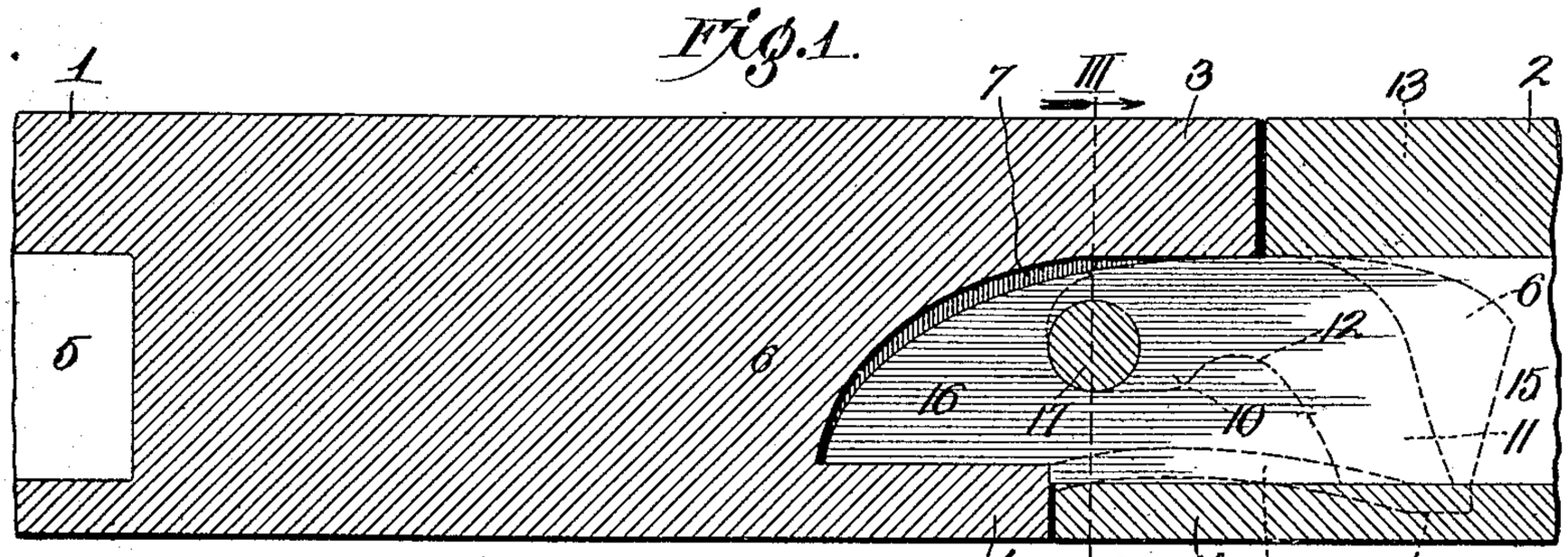


Fig. 2

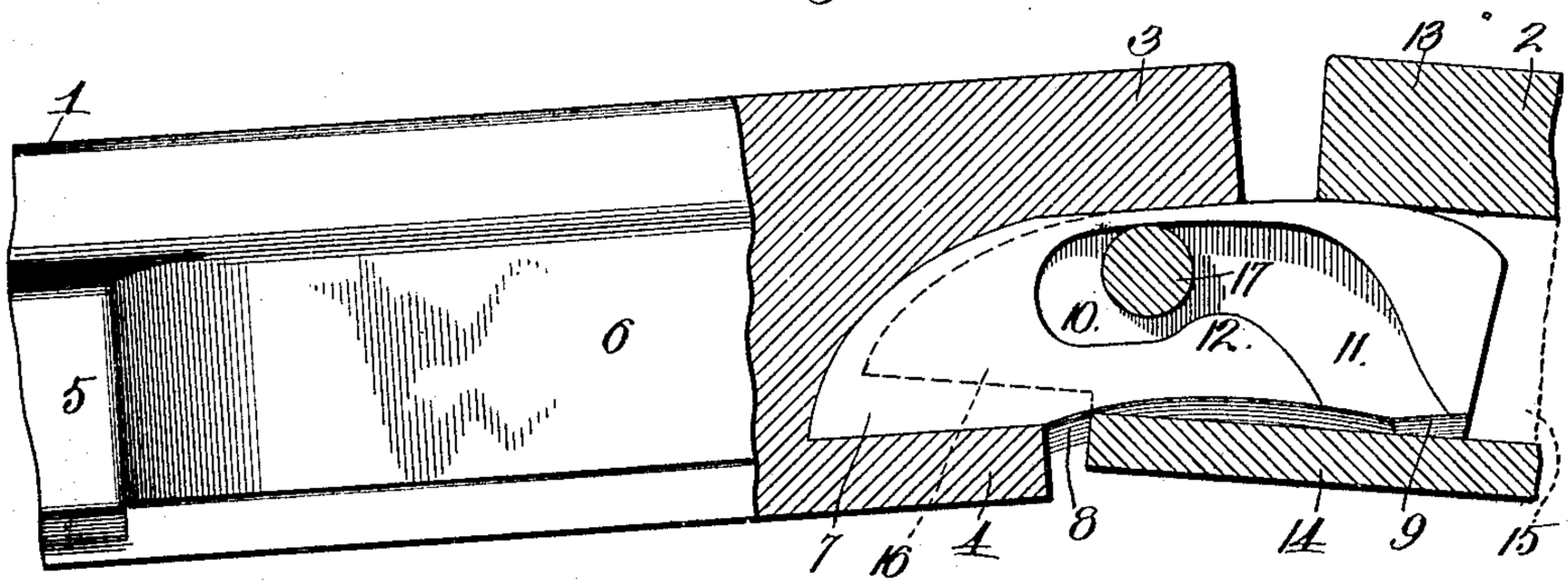


Fig. 3.

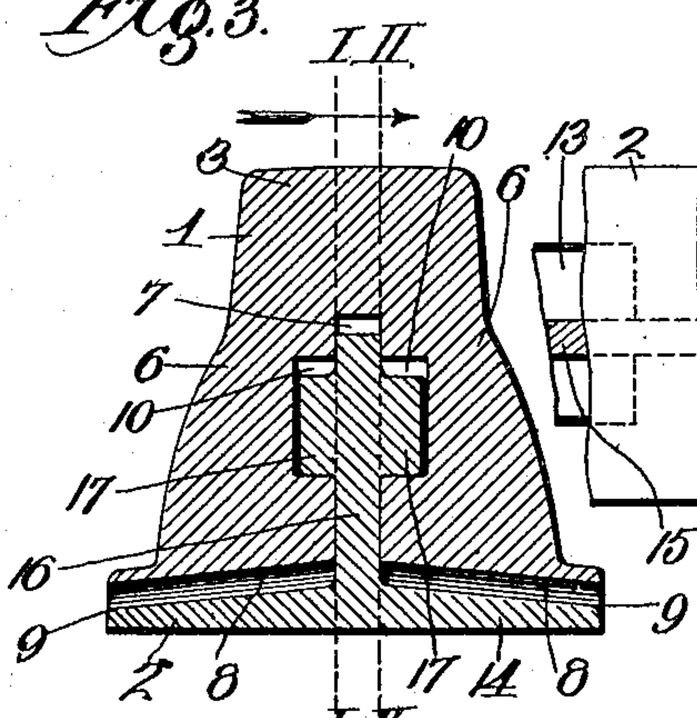
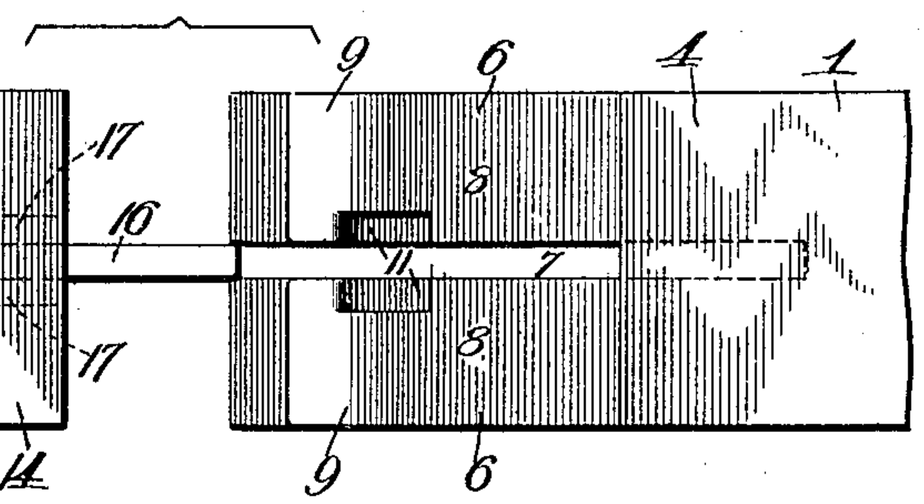


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

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INTERLOCK CONTINUOUS RAIL-JOINT.

No. 919,452. Specification of Letters Patent. Patented April 27, 1909.

Application filed September 23, 1908. Serial No. 454,459.

To all whom it may concern:

Be it known that we, THOMAS A. NICHOLSON and WILLIAM B. PIERSON, citizens of the United States, residing at Marceline, in the county of Linn and State of Missouri, have invented certain new and useful Improvements in Interlock Continuous Rail-Joints, of which the following is a specification.

This invention relates to interlock continuous rail-joints and our object is to produce a rail-joint of this character which reliably and efficiently secures the meeting ends of two rails together without interfering with expansion and contraction of the same.

A further object is to produce a construction of this character which will prevent the separation or disconnection of the rails unless sufficient manual or other power is employed to raise the meeting ends of the interlocked rails a considerable distance.

A still further object is to produce a rail-joint connection which is practically as solid and substantial as any other part of the track-rail.

With these general objects in view and others as hereinafter appear, the invention consists in certain novel and peculiar features of construction and organization as hereinafter described and claimed; and in order that it may be fully understood reference is to be had to the accompanying drawing, in which—

Figure 1, is a vertical longitudinal section taken on line I—I of Fig. 3. Fig. 2, is a vertical longitudinal section taken on line II—II of Fig. 3, and showing the rails in substantially the positions they occupy when being connected or disconnected. Fig. 3, is a vertical section on the line III—III of Fig. 1. Fig. 4, is an inverted plan view of the adjacent ends of the two rails in the positions they occupy just prior to their connection or disconnection.

In the said drawing, 1 and 2 indicate meeting rails of a trackway, the rail 1 having its ball or tread portion 3 projecting some distance beyond the corresponding end of the base or flange 4. The web 5 of the rail at a suitable distance from such end is of increased width or thickness as at 6 and projects some distance beyond the ball 3 and is bifurcated from its extreme end to a point some distance back of the end of the base 4, as shown at 7, and from the end of said base or flange to the projecting end of said enlargement of the web the latter is recessed as at 8, leaving a non-recessed portion 9. In the inner face of each arm of the web formed by the bifurcation 7 is an elongated recess or pocket 10, which from its front end extends downward to the bottom of the web to produce the communicating passage 11, an upwardly projecting shoulder 12 being formed at the communicating ends of pocket 10 and passage 11.

Rail 2 has its ball 13 terminating short of its base 14 a distance equal to that which the ball 3 projects beyond the adjacent end of base 4, and has its web 15 projecting beyond said end of the base a distance substantially equal to that between the inner end of bifurcation 7 and the front end of base 4, to form a tongue 16, it being noticed in this connection that the tongue 16 corresponds in form to the inner end of the bifurcation, but has its curved edge preferably struck from a greater radius, and 17 indicates a pair of cylindrical bosses projecting from opposite sides of web 15 in or near the vertical plane of the end of base 14.

To join the ends of the rails together their ends must be elevated a sufficient distance to slip tongue 16 in bifurcation 7 from below, the rails or one of them being then moved slightly endwise to cause bosses 17 to enter the passages 11. The rails are then caused to move relatively toward each other and are at the same time gradually lowered so as to cause tongue 16 to enter the pocket-end of bifurcation 7, and the bosses 17 to pass over shoulders 12 and enter pockets 10, it being noticed in this connection that the recess 8 in the bottom of the enlargement 6 of the web of rail 1 accommodates the projecting end of base 14 of rail 2 during the operations described. After the tongue 16 has entered the pocket-end of the bifurcation and the bosses have entered pockets 10 the downward and relative endwise movement of the rails is continued and by the time they have attained a horizontal position the tongue 16 is fitting snugly in the pocket-end of the bifurcation and the bosses 16 are resting on the bottom of pocket 10, it being further noted that the tongue 16 is resting squarely upon the base 4 and that the end 9 of the

bifurcated enlargement 6 of web 5 is resting upon base 14, and that the balls 3 and 13 of rails 1 and 2 respectively bear upon the underlying tongue 16 and arms of the bifurcated enlargement 6. It will thus be seen that the rails have eight points of contact or bearing at their connected ends and that they are so interlocked together by the bosses and pockets 10 that it is impossible to separate them except by first lifting them and then reversing the other manipulations described, said pockets being elongated to permit the bosses to play therein under the expansion and contraction of the rails. After the rails are interlocked together they will be spiked down upon ties, not shown in the usual manner.

From the above description it will be apparent that we have produced an interlock continuous rail-joint possessing the features of advantage enumerated as desirable and we wish it to be understood that we reserve the right to make such changes in the form, proportion, detail construction and arrangement of the parts as shall not be a departure from the spirit and scope of the appended claims.

Having thus described the invention what we claim as new and desire to secure by Letters-Patent, is:—

1. In a rail joint, a rail having its ball projecting beyond the adjacent end of its base, and its web projecting beyond the adjacent end of its ball and vertically bifurcated from its end to a point at the opposite side of said end of the base to form a pocket between the base and ball of the rail, said web being also provided with a recess in its underside beyond the said end of the base and with pockets at opposite sides of and communicating with the bifurcation and passages communicating with and extending downward from said pockets to its underside, and with shoulders projecting upward above the bottoms of the pocket at the point of communication of the latter with said passages.

2. A rail joint, comprising a rail having its ball projecting beyond the adjacent end of its base, and its web projecting beyond the adjacent end of its ball and vertically bifurcated from its end to a point at the opposite side of said end of the base to form a pocket between the base and ball of the rail, said web being also provided with a recess in its underside beyond the said end of the base and with pockets at opposite sides of and communicating with the bifurcation and passages communicating with and extending downward from said pockets to its underside, and with shoulders projecting upward above the bottoms of the pocket at the point of communication of the latter with said passages, in combination with a second rail alined with the first with one end of its ball and the corresponding end of its base juxtaposed to said ends of the ball and base of the first-named rail, and the former resting upon the projecting ends of the web of the first-named rail and its base supporting said projecting ends of said web and provided with a web fitting in the bifurcation of the web of the first-named rail and terminating in a tongue fitting in the first named pocket of the first-named rail and resting upon the base of the latter and also provided with laterally projecting cylindrical bosses to pass through the passages of the first-named rail and over the shoulders thereof and into the pockets thereof communicating with said passages.

In testimony whereof we affix our signatures, in the presence of two witnesses.

THOMAS A. NICHOLSON.
WILLIAM B. PIERSON.

Witnesses:
R. M. Wrenn,
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