

J. G. PAGE.
RAIL JOINT.
APPLICATION FILED NOV. 28, 1908.

929,323.

Patented July 27, 1909.

Fig. 1.

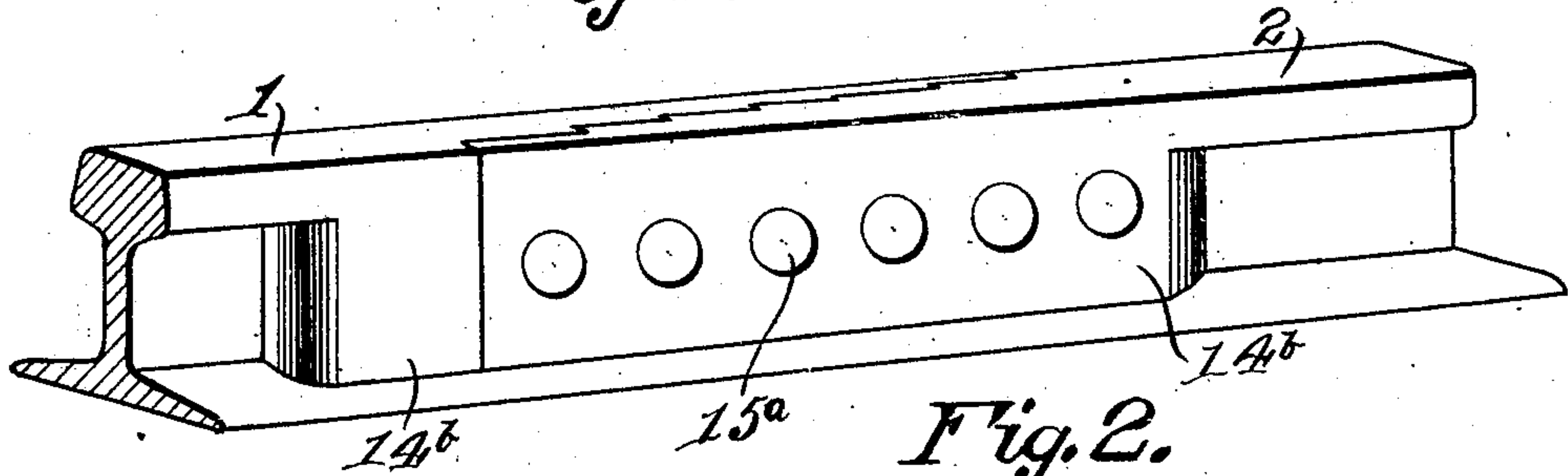


Fig. 2.

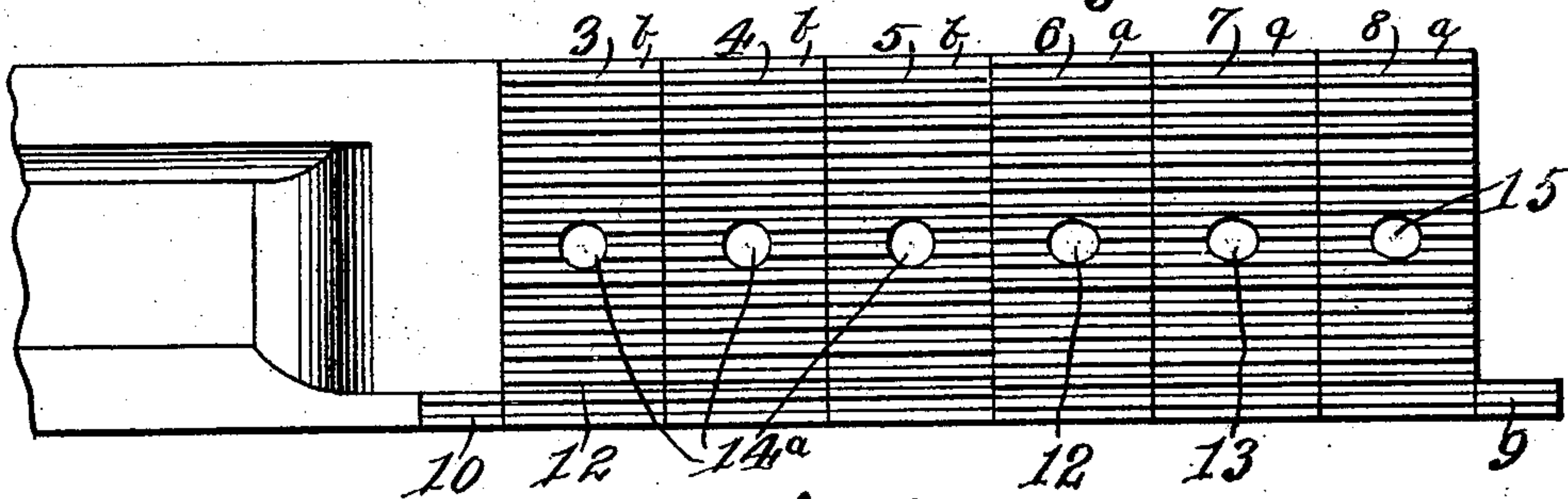


Fig. 3.

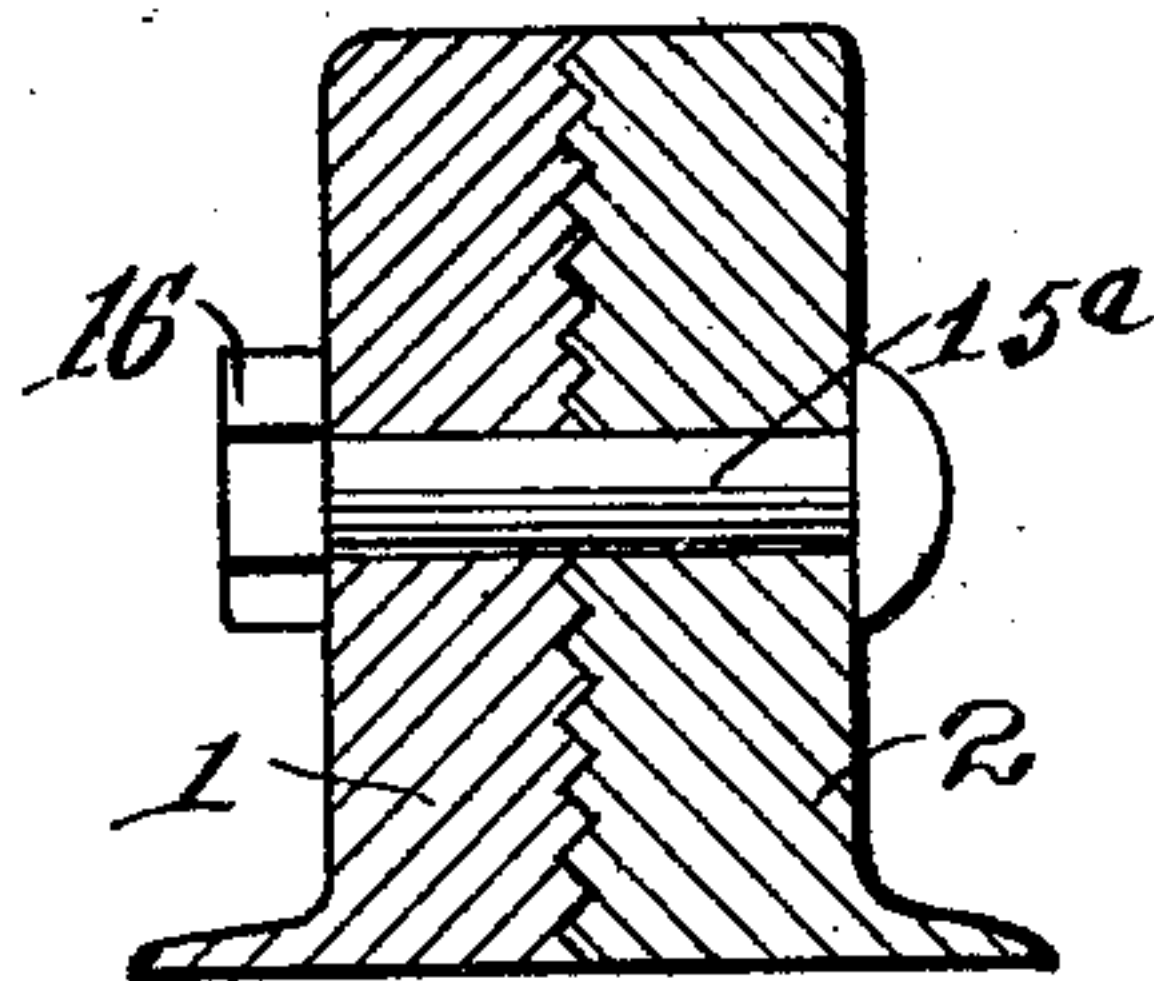
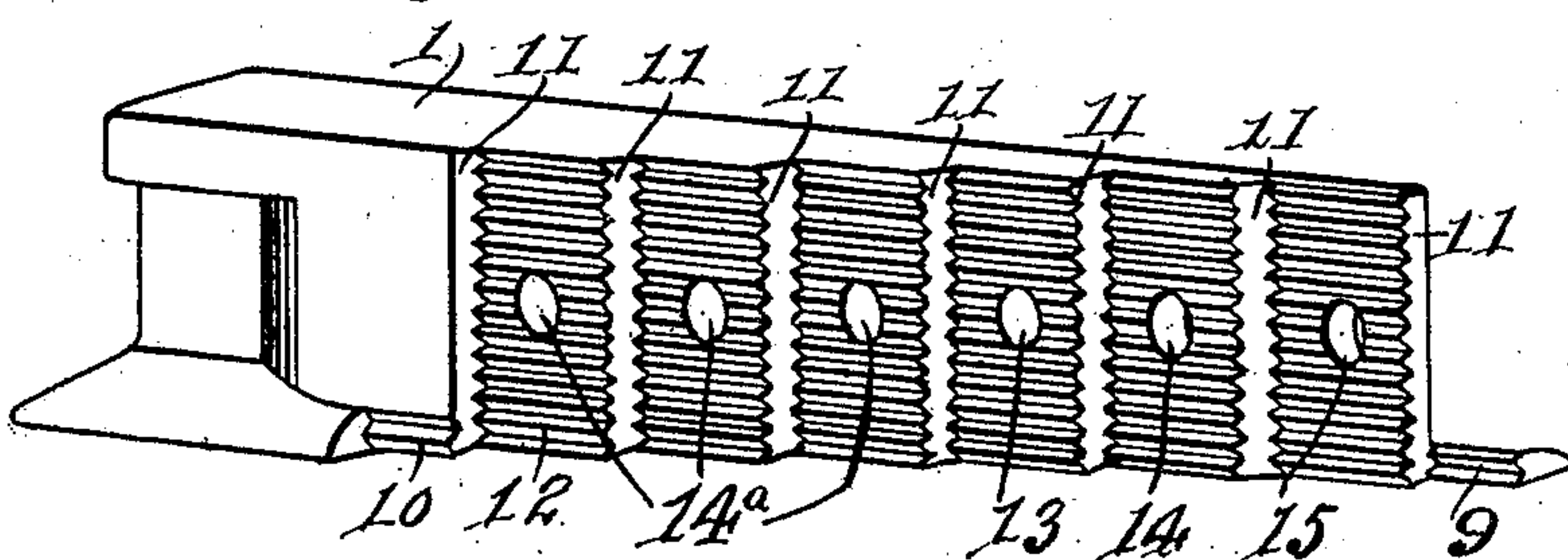


Fig. 4.



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RAIL-JOINT.

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To all whom it may concern:

Be it known that I, JOHN GEARY PAGE, a citizen of the United States of America, residing at Cedar City, in the county of Iron and State of Utah, have invented new and useful Improvements in Rail-Joints, of which the following is a specification.

This invention relates to rail joints, and one of the principal objects of the same is to provide strong, durable and efficient means for securing the meeting ends of railway rails in a reliable and substantial manner, which will prevent spreading or sinking of the rails and will also prevent the pounding of the rolling stock as it passes over the joint.

Another object of the invention is to provide a rail joint in which the meeting faces of the joint are oppositely offset progressively from one side to the other, the meeting faces of the offset portions being provided with grooves and ribs which interlock to prevent relative movement of the rails in one direction when the joint is secured by the ordinary fastening bolts.

Other objects of the invention may be briefly referred to as follows: to provide a joint of strength equal to that at any point in the body of the rail without the use of more material than is utilized in the case of the ordinary fish plate joints; to make a rail joint that will dispense with the use of fish plates; to make a joint that will freely admit of expansion and contraction without appreciably lessening the strength of the joint; to form a joint in which the ends of the rails will last as long as the body of the rails, and to make the abutting ends of rails of such shape that they can be readily stamped into the required contour during the same operation in which the rails are formed.

These and other objects may be attained by means of the construction illustrated in the accompanying drawing, in which,—

Figure 1 is a perspective view of a rail joint made in accordance with my invention, the two members being secured together by bolts. Fig. 2 is an inside face view of one member of the joint. Fig. 3 is a vertical section through the two meeting ends of the rails, said view showing the bolt in elevation. Fig. 4 is a perspective view looking at the inside and top of one of the members of the joint.

Referring to the drawing, the numeral 1

designates one of the rails, and 2 the other rail. Each of said rails is provided with offset portions 3, 4, 5, 6, 7 and 8 arranged progressively, from one side of the rail to the other, and terminating in a projecting lug 9 designed to fit a recess 10 in the side of the meeting rail at a point in line with the base flange. Each of the offset portions is provided with a shoulder 11, against which a similar shoulder on the mating rail abuts. As shown in Fig. 2, the ribs 12 are substantially rectangular in cross section, and the ribs of the three offset portions 3, 4 and 5 are arranged coincidently, while the ribs and grooves of the offset portions 6, 7 and 8 are arranged out of alinement with those of the offset portions 3, 4 and 5. The object of this arrangement is to facilitate the mating of the two members of the joint. It will be understood that the opposite ends of each rail are provided with the offset portions and the ribs and grooves arranged precisely identical so that when one end of one rail is placed against the end of the mating rail, the grooves and ribs will interlock and form a perfectly smooth tread surface to both rails at the joint. It is to be noted that in the three offset portions 6, 7 and 8 at the top, these offset portions terminate each in a rib *a* and that the portions 3, 4 and 5 terminate at the top in a groove *b*. Hence when the other mating end of the rail is brought into position, or the two members of the joint together, the part 8 of one rail will fit against the part 3 of the other rail, while the part 7 of one member will fit against the part 4 of the other member, and the part 6 of one member will fit against the part 5 of the other member. Hence the ribs *a* on the portions 6, 7 and 8 will fit the grooves at the top of the portions 3, 4 and 5 of the other rail, while the lug 9 of one member will fit the recess 10 of the other member. This arrangement of the ribs and grooves is carried out both at the top and bottom of the joint, as will be obvious upon inspection. The bolt holes 13, 14, 15 in the offset portions 6, 7 and 8 are slightly elongated or elliptical in form, while the bolt holes 14^a in the offset portions 3, 4 and 5 are round. The object of this construction is to permit a slight end-wise movement of each joint member to permit expansion and contraction of the rails, the bolts passing through the elongated bolt holes of one member of the joint and extending through round bolt holes in the other

member, and vice versa, thus permitting a slight endwise movement of the joint.

Upon reference to Fig. 4, it will be seen that the ribs and grooves in the offset portions are substantially V-shape in cross section. It will be understood, of course, that other forms of ribs and grooves may be utilized to take the place of those shown. It will also be obvious that instead of six offset portions any suitable even number may be used, such as four, eight, ten, twelve or more. At the sides of the rails 1 and 2 enlargements 14^b are formed in order that the joint may be materially strengthened, and bolts 15^a are extended through the bolt holes to firmly join the two rails.

From the foregoing it will be obvious that a railway joint made in accordance with my invention can be readily stamped into shape; that the rails can be quickly laid and firmly held in position; that repairs may be made very readily; that there is no danger of spreading or sinking of the rails at the joint, and that the rolling stock in passing over the joint will not pound, owing to the fact that there is no direct cross joint, the wheels being carried over the upper surfaces of the offset portions progressively.

I claim:—

1. A rail joint comprising offset portions provided with ribs and intermediate grooves, said offset portions extending progressively from one side of the rail end to the other, and bolts extending through said offset portions for holding the rails in contact.

2. A rail joint comprising a series of offset faces extending from one side progress-

ively to the other side of the rail end, shoulders formed at the ends of each of the offset portions, ribs and intermediate grooves extending longitudinally of said offset portions, and bolts for securing the ends of the rails together.

3. A rail joint comprising progressively offset portions provided with longitudinal ribs and intermediate grooves and provided with a projecting base lug at the terminal end thereof designed to fit a recess in the meeting rail, and bolts for holding the rail ends together.

4. A rail joint comprising meeting rails provided with oppositely disposed offset portions arranged progressively and provided with longitudinal ribs and intermediate grooves, the ribs of some of the offset faces being arranged out of alinement with the others, and bolts for securing the meeting ends of the rail sections together.

5. A rail joint comprising progressively offset portions provided with longitudinal ribs and intermediate grooves, one half of said offset portions being provided with ribs and grooves out of alinement with the other offset portions so that when one end of a rail provided with like offsets is interlocked, the ribs of one member will fit the grooves of the other member, as described.

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

JOHN GEARY PAGE.

Witnesses:

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ROBERT G. PAGE.