

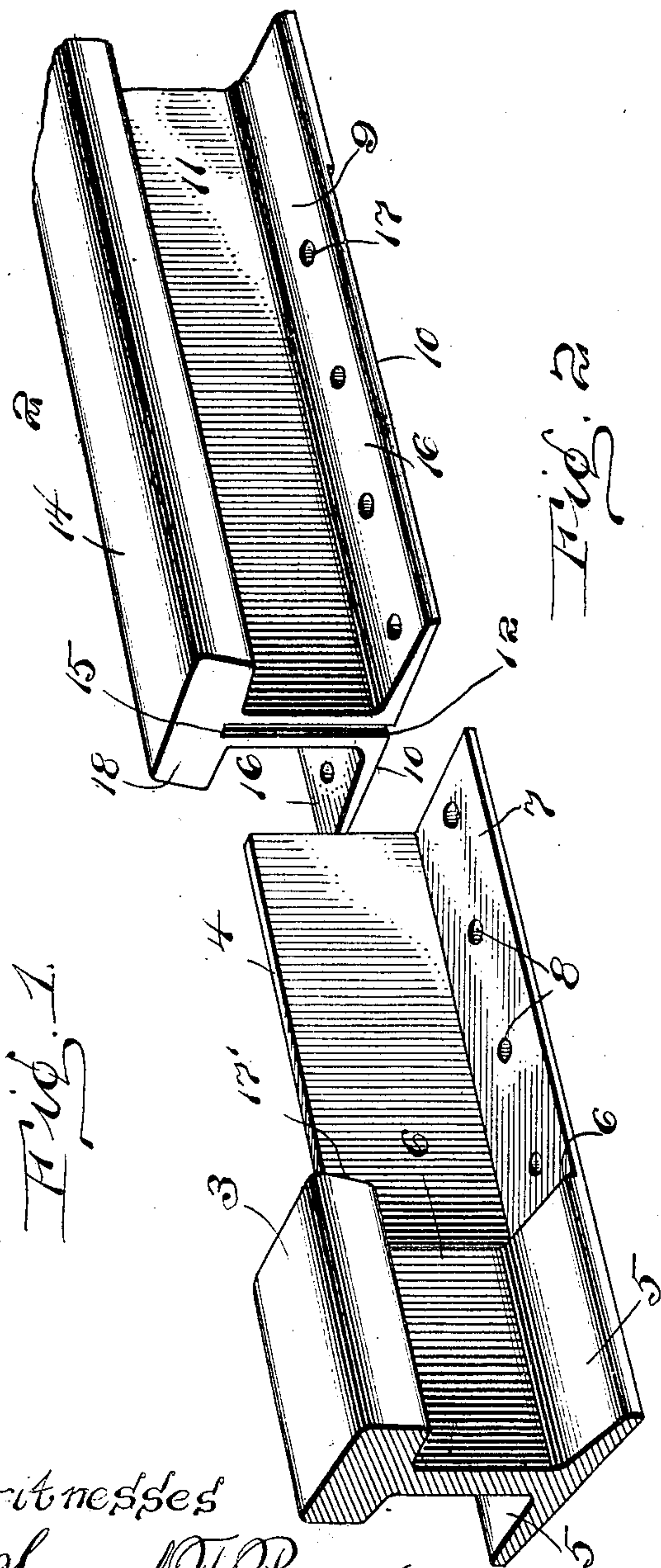
No. 825,656.

PATENTED JULY 10, 1906.

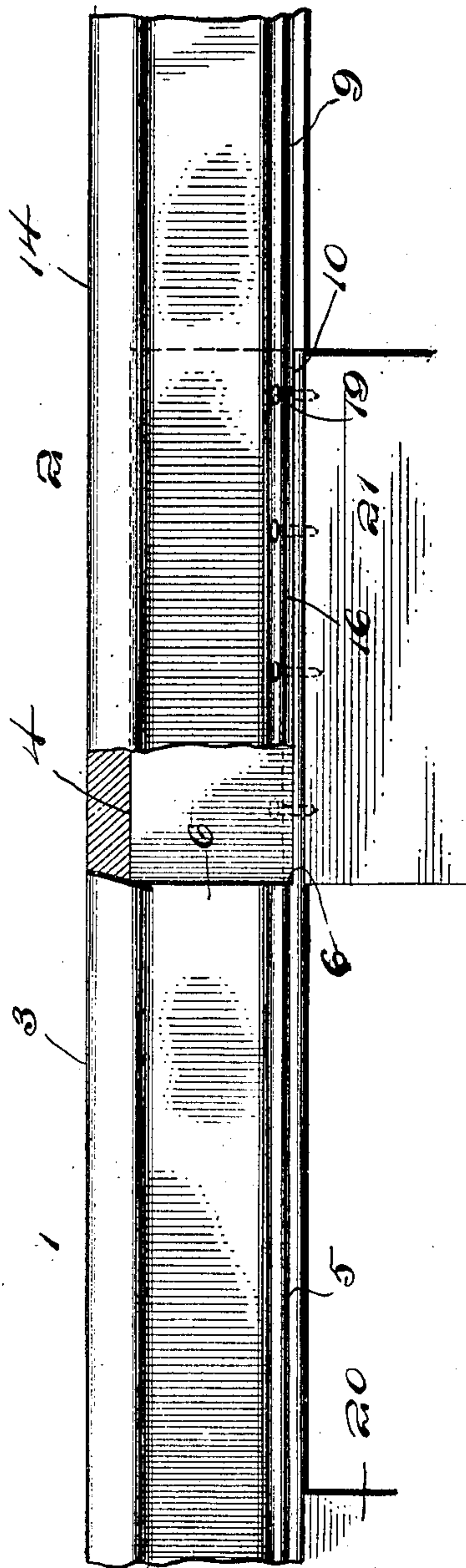
H. R. JOHNSON.

RAIL JOINT.

APPLICATION FILED MAR. 7, 1906.



witnesses  
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# UNITED STATES PATENT OFFICE.

HARVEY R. JOHNSON, OF CARNEGIE, PENNSYLVANIA.

## RAIL-JOINT.

No. 825,656.

Specification of Letters Patent.

Patented July 10, 1906.

Application filed March 7, 1906. Serial No. 304,731.

*To all whom it may concern:*

Be it known that I, HARVEY R. JOHNSON, a citizen of the United States of America, residing at Carnegie, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to certain new and useful improvements in rail-joints; and the invention has for its primary object the provision of novel means for securing the confronting ends of two sections of rails together  
15 without the use of nuts and bolts, splice-bars, or fish-plates.

Another object of this invention is to provide a rail-joint having a continuous tread which will dispense with the jarring of rolling-stock passing over the joint between two sections of rails.

20 A further object of this invention is to provide a rail-joint which will be extremely simple in construction, strong and durable, comparatively inexpensive to manufacture, and  
25 highly efficient when in use.

With the above and other objects in view, which will more readily appear as the nature of the invention is better understood, the  
30 same consists in the novel construction, combination, and arrangement of parts to be hereinafter more fully described and claimed, and, referring to the drawings accompanying this application, like numerals of reference  
35 designate corresponding parts throughout both views, in which—

Figure 1 is a perspective view of the confronting ends of two sections of rails, illustrating the construction of said rails to form  
40 a joint. Fig. 2 is a side elevation, partly broken away, illustrating the confronting ends of two sections of rails joined together.

To put my invention into practice, I use the ordinary type of rails 1 and 2 commonly  
45 employed in railway construction for forming tracks over which rolling-stock is adapted to travel. In dispensing with nuts and bolts, splice-bars, and fish-plates I construct a rail 2 whereby its end will fit over the end of the  
50 rail 1 and form practically a continuous tread. To this end I cut away the head 3 of the rail 1, leaving a web portion 4, which, together with the base-flanges 5 5, is cut away, as indicated at 6 6, forming seats for the adjoining rail-section 2. The base-flanges 7 7, formed by cutting away the flanges 5 5, are provided with a

plurality of apertures or openings 8, which may be circular or rectangular, as desired.

The adjoining section of rail 2 has the underneath face of its base-flange 9 cut away, as  
60 at 10 10, while its web portion 11 is provided with a vertically-disposed slot 12, extending upwardly into the head 14 of the rail 2, as at 15. The base-flanges 16 16, formed by cutting away the flanges 9 9, are provided with a  
65 plurality of apertures or openings 17 of the same size as the openings or apertures 8 of the rail 1.

In cutting away the head 3 of the rail 1 I provide the end of the head 3 with an inclined  
70 or beveled face 17' and correspondingly bevel or incline the head 14 of the rail 2, as at 18, whereby when the rails 1 and 2 are placed together the inclined or beveled faces 17 and 18 of said rails will coincide.

The rail-head 14 is adapted to fit upon the rail 1, the web portion 4 of the rail 1 engaging in the slot 15 of the rail 2, while the flanges 16  
80 16 of the rail 2 rest upon the flanges 7 7 of the rail 1. Spikes or the like fastening means 19 are often employed for securing the rails 1 and 2 together, said spikes passing through the apertures or openings 17 of the rail 2 and the apertures or openings 8 of the rail 1,  
85 firmly locking the rail 2 upon the rail 1.

The overlapping end of the rail 2 is adapted to form a continuous tread between the heads 3 and 14 of said rails, and the beveled, or inclined faces 17' and 18 of said rails are adapted to prevent the rail 2 from rising irrespec-  
90 tive of the rail 1 when said rails are secured together. It will be impossible for one rail to become laterally displaced relative to the other, and expansion and contraction of said rails will be permitted by making the open-  
95 ings 8 and 17 of said rails of a sufficient size to permit of movement irrespective of the spikes 19 or the means employed for holding the rails in engagement with the ties 20 and 21.

By reducing the web portions 4 and the base-  
100 flanges 5 of the rails 1 and 2 I am enabled to maintain a smooth and even connection between the rails 1 and 2 when the rail 2 is placed in engagement with the rail 1, this being especially true of the heads 3 and 14 of  
105 said rails.

What I claim, and desire to secure by Letters Patent, is—

A rail-joint, consisting of rail ends, one of which is provided with a slot extending the  
110 entire depth of the rail-flange, and into the rail-head, said rail end having the under-



neath face of the rail-base cut away, and the  
flanges of said base provided with apertures,  
the other rail end having its tread cut away  
for a distance equal to the length of the slot  
5 in the first-mentioned rail end, and having the  
upper face of the flanges forming the rail-  
base cut away, said flanges provided with ap-  
ertures registering with the first-mentioned  
apertures when the rails are matched to-  
10 gether, the adjacent ends of the rail-treads

being inclined at reverse angles whereby the  
ends of said treads will match when the rail  
ends are engaged and securing-spikes passed  
through said apertures.

In testimony whereof I affix my signature 15  
in the presence of two witnesses.

HARVEY R. JOHNSON

Witnesses:

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