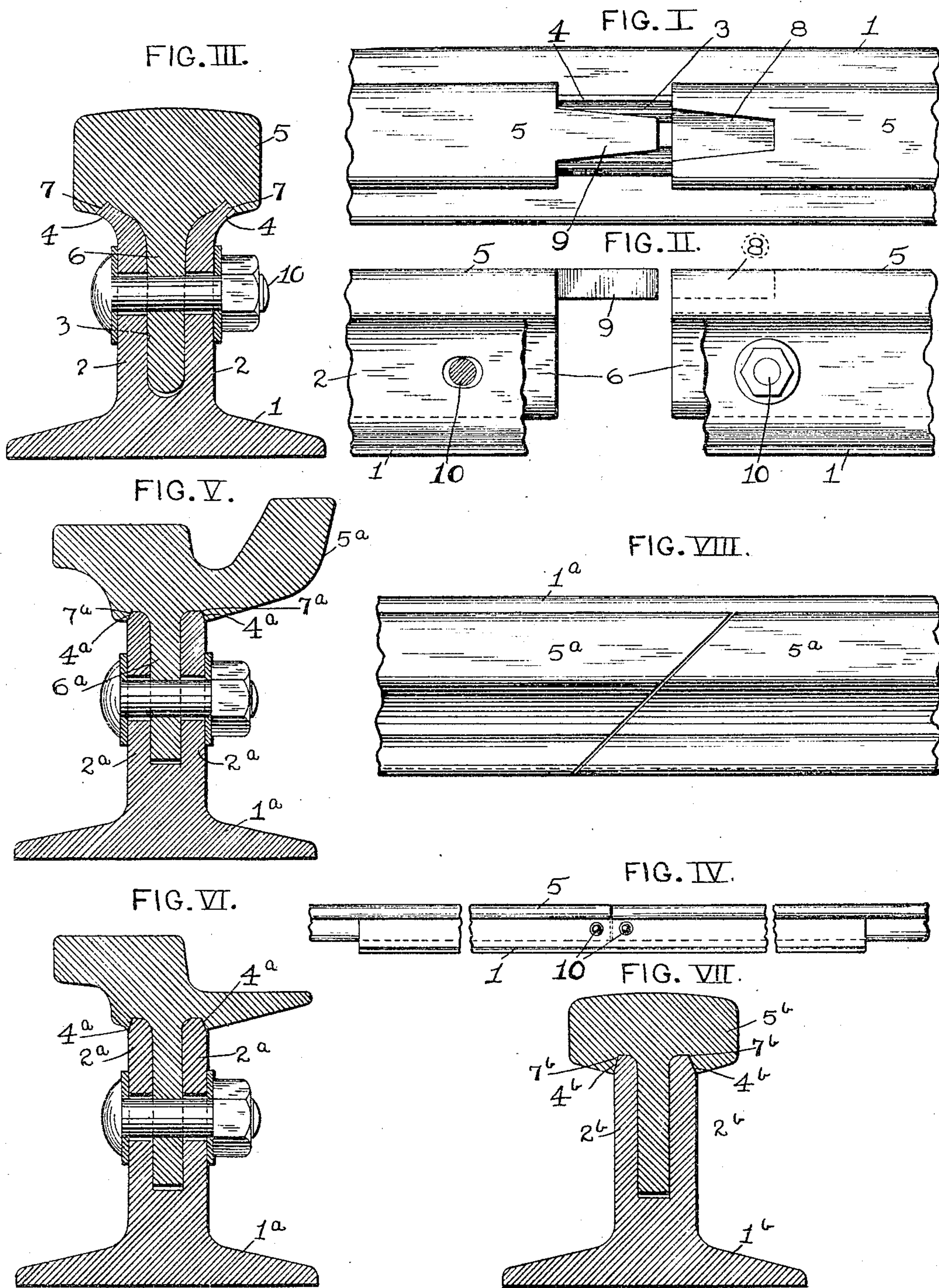


No. 784,379.

PATENTED MAR. 7, 1905.

F. BERTGEN.  
RAILWAY RAIL.  
APPLICATION FILED APR. 30, 1904.



ATTEST.

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# UNITED STATES PATENT OFFICE.

FRANZ BERTGEN, OF ST. LOUIS, MISSOURI, ASSIGNOR OF TWO-THIRDS  
TO GEORGE J. KOBUSCH, OF ST. LOUIS, MISSOURI.

## RAILWAY-RAIL.

SPECIFICATION forming part of Letters Patent No. 784,379, dated March 7, 1905.

Application filed April 30, 1904. Serial No. 205,832.

*To all whom it may concern:*

Be it known that I, FRANZ BERTGEN, a subject of the Emperor of Germany, and a resident of the city of St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Railway-Rails, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to a railway-rail composed of lower sections that are longitudinally grooved and upper sections that are provided with tongues which fit into the grooves in the lower sections.

The invention also relates to means for preventing lateral displacement of the rail-sections at their meeting ends.

The invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a top or plan view showing the meeting ends of two railway-rails constructed in accordance with my invention. Fig. II is a side elevation of the rail ends shown in Fig. I. Fig. III is an enlarged cross-section taken through one of my rails. Fig. IV is a side view showing sections of two of my rails united. Figs. V, VI, and VII are cross-sections of modifications of my rail. Fig. VIII is a top view of another modification.

1 designates the lower rail member, which is provided with vertical webs 2, spaced apart to furnish a groove 3 between them. As illustrated in Figs. I, II, and III, the webs 2 are turned outwardly at their upper ends, as seen at 4.

5 designates the upper rail member, which is furnished with a tongue 6, that enters into the groove 3 between the webs 2 of the lower member. As illustrated in Fig. III, the head of the upper rail member is undercut to provide shoulders 7, that rest against the upper edges of the outturned lower-member webs

2. In the head of each of the upper rail members, at one end thereof, is a tapered socket 8, (see Figs. I and II,) and projecting from the opposite end of each upper rail member is a tapered tongue 9, that is adapted to enter

the socket 8 at the adjacent mating upper rail-section, so that the two upper rail members will be united in a manner to prevent lateral displacement with respect to each other. The meeting ends of the lower rail members and the meeting ends of the upper rail members are offset from each other, as illustrated in Fig. IV, thereby breaking joints in the connection of the members and avoiding possibility of their becoming separated.

10 represents bolts by which the upper and lower rail members are united, these bolts being introduced through the webs 2 of the lower members and the tongues 6 of the upper members. The bolt-openings in the webs 2 are elongated, as shown in Fig. II, so as to permit longitudinal movement of the bolts 10 and the upper rail member 5 relative to the lower rail member 1.

In Figs. V and VI, I have shown modifications illustrating my improvement applied to rails having heads of different shapes from that shown in Figs. I to IV, inclusive. In these modifications the upper ends of the lower rail-member webs 2<sup>a</sup> are beveled at their outer faces, as seen at 4<sup>a</sup>, and the heads of the rails are provided at their under sides with tapered shoulders 7<sup>a</sup>, that bear against the beveled faces and act to press the webs 2<sup>a</sup> inwardly to the upper rail-member tongue 6<sup>a</sup>, thereby binding said tongue between said webs.

In the modification shown in Fig. VII the upper rail member has a head 5<sup>b</sup> similar to that shown in Fig. I, and the lower member has the webs 2<sup>b</sup>, that are beveled at 4<sup>b</sup>, similar to the form shown in Figs. V and VI to receive the engagement of the tapered shoulders 7<sup>b</sup>.

In Fig. VIII, I have shown the ends of the upper rail members of angle shape instead of being cut straight, as in Figs. I and II, the form of rail-head in this modification being the same as that shown in Fig. V.

I claim as my invention—

1. A railway-rail consisting of a lower grooved member, a pair of upper members seated in said lower member and provided with means for interlocking engagement with each

other at their adjacent ends, and means for securing said upper members to said lower member, said means permitting longitudinal movement of the upper members relative to  
5 the lower member, substantially as set forth.

2. A railway-rail consisting of a lower grooved member, a pair of upper members having tongues fitting in the groove in said lower member, said upper members being  
10 provided with means for interlocking engagement with each other at their adjacent ends, and bolts passing through said lower member

and the tongues of the upper members for securing the upper members to the lower member, said lower member being provided with  
15 elongated bolt-openings permitting longitudinal movement of the bolts and the upper members relatively to the lower member, substantially as set forth.

FRANZ BERTGEN.

In presence of—

M. H. MURPHY,

ARTHUR DIEKMANN.