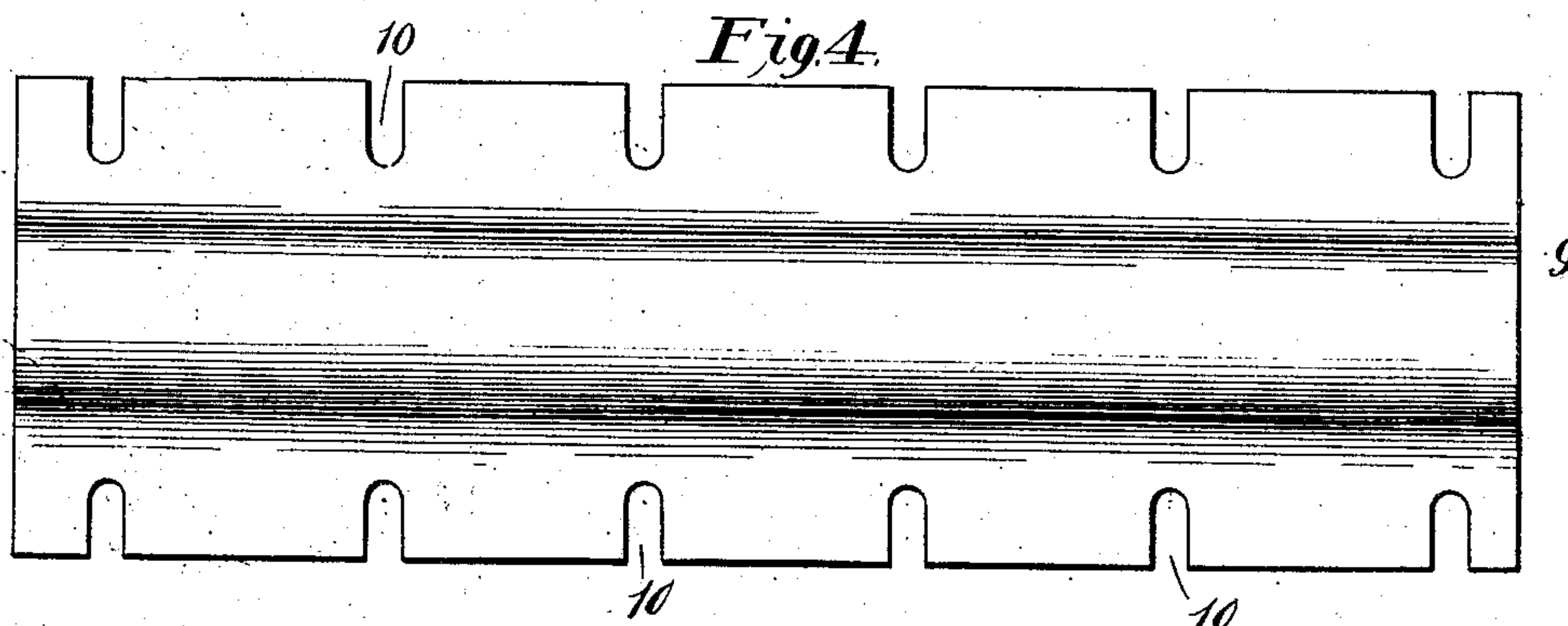
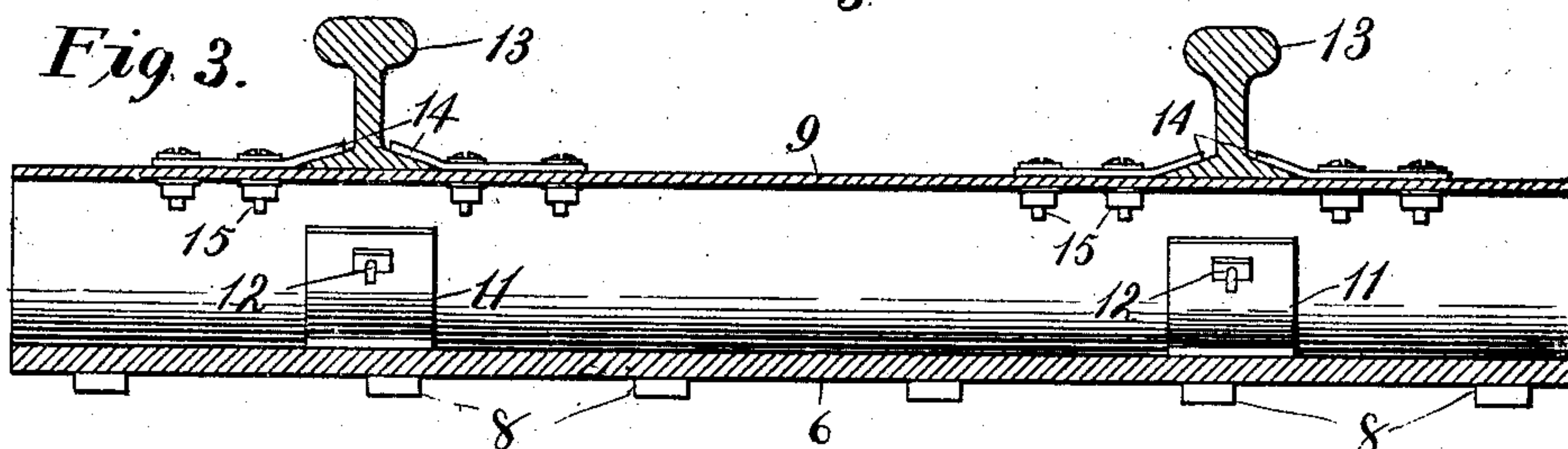
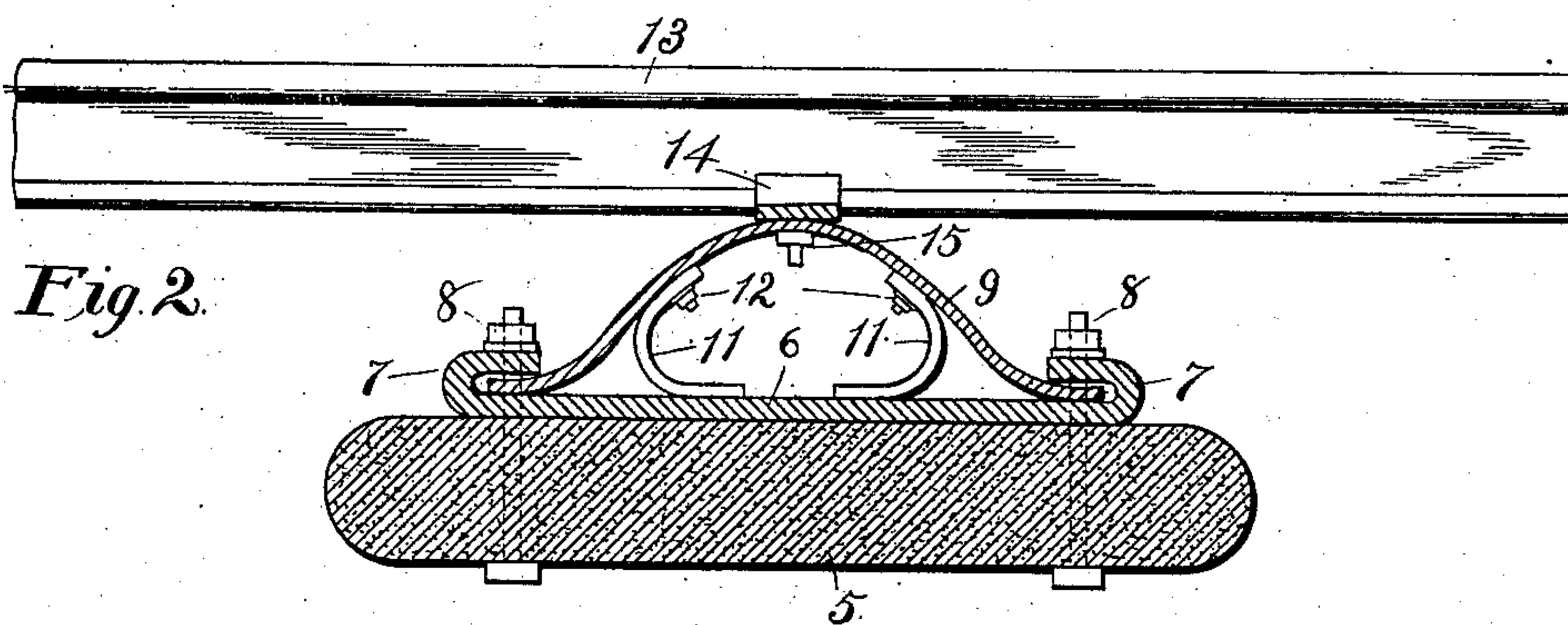
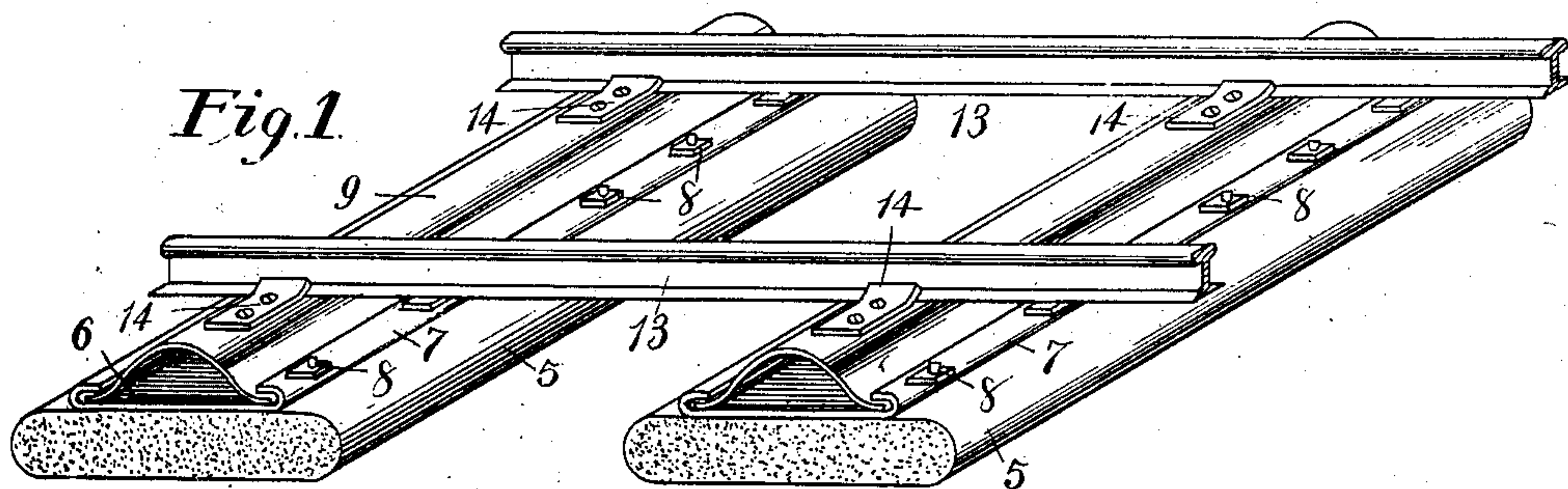


No. 842,415.

PATENTED JAN. 29, 1907.

A. J. MUELLER.
METALLIC RAILWAY TIE.
APPLICATION FILED JUNE 11, 1906.



Witnesses:

M. Marty

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UNITED STATES PATENT OFFICE.

AUGUST J. MUELLER, OF CHICAGO, ILLINOIS.

METALLIC RAILWAY-TIE.

No 842,415.

Specification of Letters Patent.

Patented Jan. 29, 1907.

Application filed June 11, 1906. Serial No. 321,295.

To all whom it may concern:

Be it known that I, AUGUST J. MUELLER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Metal Railway-Ties, of which the following is a specification.

This invention relates to improvements in metal railway-ties; and the especial object of my improvements is to provide a strong and durable tie of comparatively inexpensive construction which will possess the necessary supporting qualities with the desired degree of resiliency and one in which provision is made for the expansion and contraction of the metal incident to temperature conditions.

A further object is to provide a tie that will have a broad and firm base, so that it will not sink unduly into the material with which the railroad-way is ballasted.

In carrying into effect my invention I have provided a tie consisting chiefly of two pieces of sheet metal the tread or rail supporting member of which is tempered to give it the desired resiliency, and the other member is non-tempered and is preferably heavier. Means are provided for the expansive movements of the tread member and other means for reinforcing said member at the points where it receives the greatest impact from passing cars.

I have shown my invention in a preferred form in the accompanying drawings, in which—

Figure 1 is a perspective view of a section of railway equipped with my improved ties. Fig. 2 is a view in cross-section through one of my ties. Fig. 3 is a longitudinal section through one of my ties. Fig. 4 is a top plan view of the tread member of my tie.

Referring to the drawings in detail; 5 represents a cement or concrete base of suitable dimensions to furnish an effective support for the metal parts to be described. This base is preferably rounded along its edges, as shown, and, if desired, it may be reinforced by any of the well-known methods.

Arranged upon the base 5 is a metal plate 6, the edges of which are bent upwardly and inwardly to form the overhanging flanges 7. These flanges and the body portion of the plate below the flanges are perforated at intervals to receive bolts 8, by which the plate is secured to the base 5. This plate preferably extends substantially the entire length of the base. Placed upon plate 6 is a plate 9,

bent to form an arch and made of metal of more or less resiliency.

The edges of the plate 9 are placed under the flanges 7 and have open slots 10 cut therein to receive loosely the bolts 8. The track-rails 13 rest upon the center of the arched portion of the plate 9 and are removably attached thereto by chairs 14, which are secured to the plate by bolts 15 and have their free ends overlapping the base or foot of the rails.

At the points where the rails rest upon the plate 9 the latter is reinforced by bent plates 11, one end of which is bolted to said plate, and the other end rests upon the plate 6. These plates 11 are made of spring-metal, so that they will yield and at the same time be sufficiently stiff to afford reinforcement to the plate 9 against the weight of trains. The thickness of the plates 6, 9, and 11 will depend upon the weight of the trains and rails which they are to support. If desired, the reinforcing-plates may be inserted at points other than directly under the rails and may be bolted to the plate 6 and have their free end against the under side of the plate 9.

It will be apparent that as the plate 9 is flattened by the weight of passing cars its edges will have a sliding movement under the flanges, such movement being limited by the depth of the flanges and the length of the slots 10.

It will also be apparent that instead of securing the member 7 to a concrete base it may be secured directly to the road-bed in any suitable manner, the essential elements of my invention being only the plates described.

I claim as my invention—

1. Rail-supporting means consisting of a base-plate having upturned and inturned edges forming channels, an arched tread-plate arranged upon said base-plate, and having its edges slotted and loosely fitting said channels, and means engaging said slots for detachably securing the tread-plate to the base-plate.

2. Rail-supporting means consisting of a base-plate having upturned and inturned edges forming longitudinal channels, an arched tread-plate arranged upon said base-plate and having its edges slotted and loosely fitting said channels, resilient means for reinforcing said tread-plates, and means for detachably securing the tread-plate to the base-plate.

3. Rail-supporting means consisting of a
base-plate having channels along its edges,
an arched tread-plate having open slots in its
edges, and said edges loosely fitting said
5 channels, bolts passing through said slots and
base-plate, and resilient supporting-plates
arranged below said tread-plate.

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

AUGUST J. MUELLER.

Witnesses:

F. BENJAMIN,
M. A. MILORD.