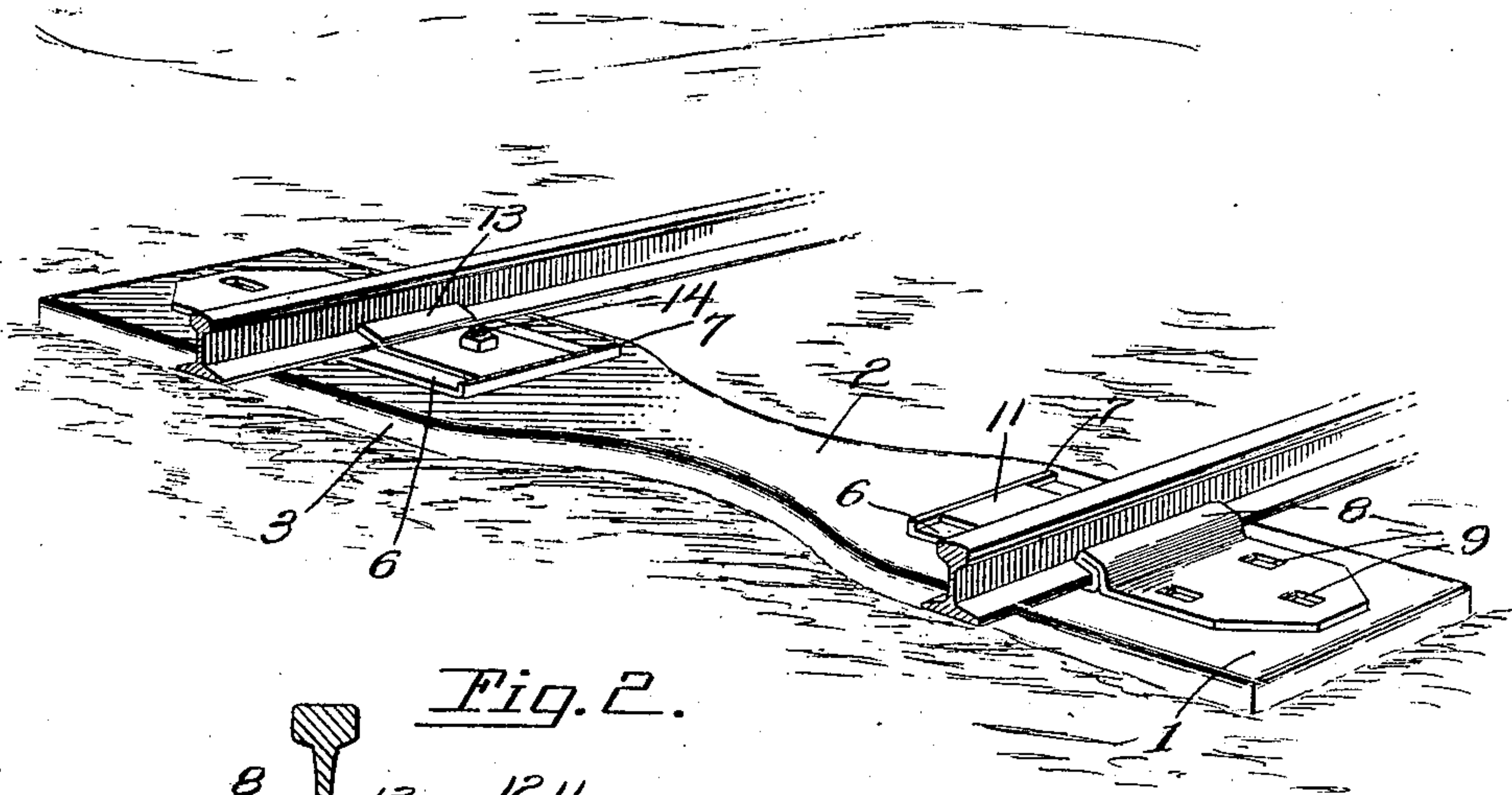


J. DAVIDSON.  
RAIL TIE AND BRACE.  
APPLICATION FILED JULY 17, 1908.

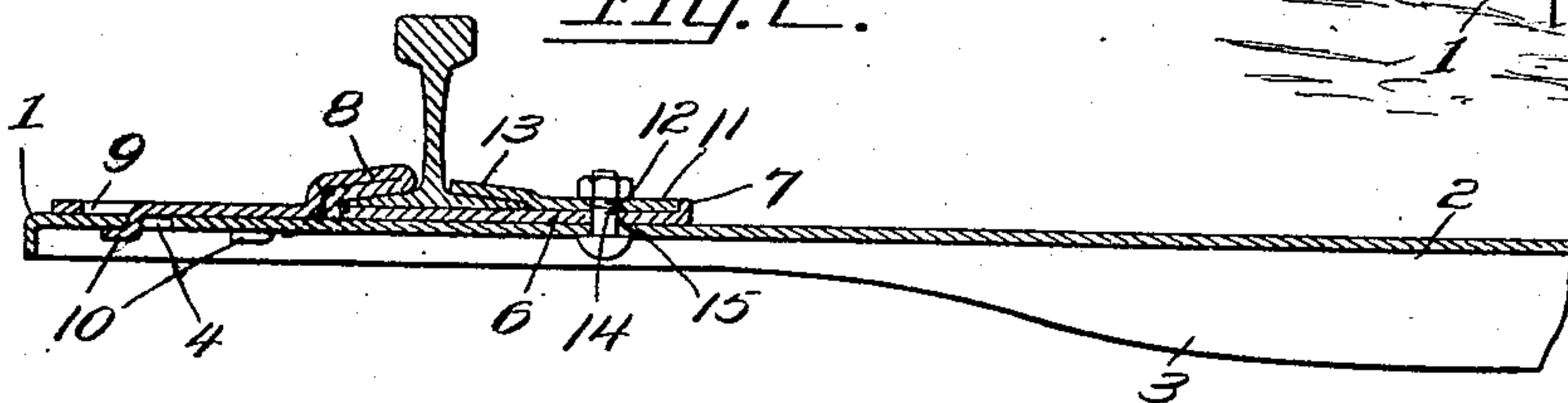
917,554.

Patented Apr. 6, 1909.

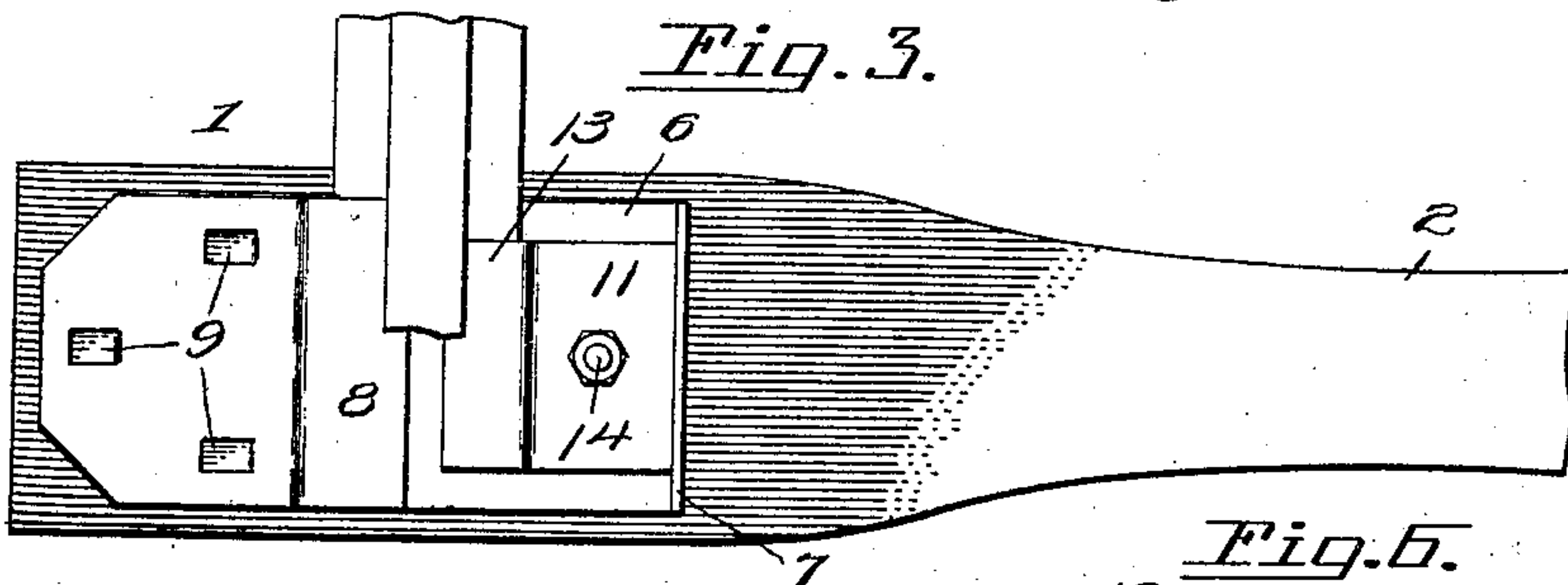
*Fig 1*



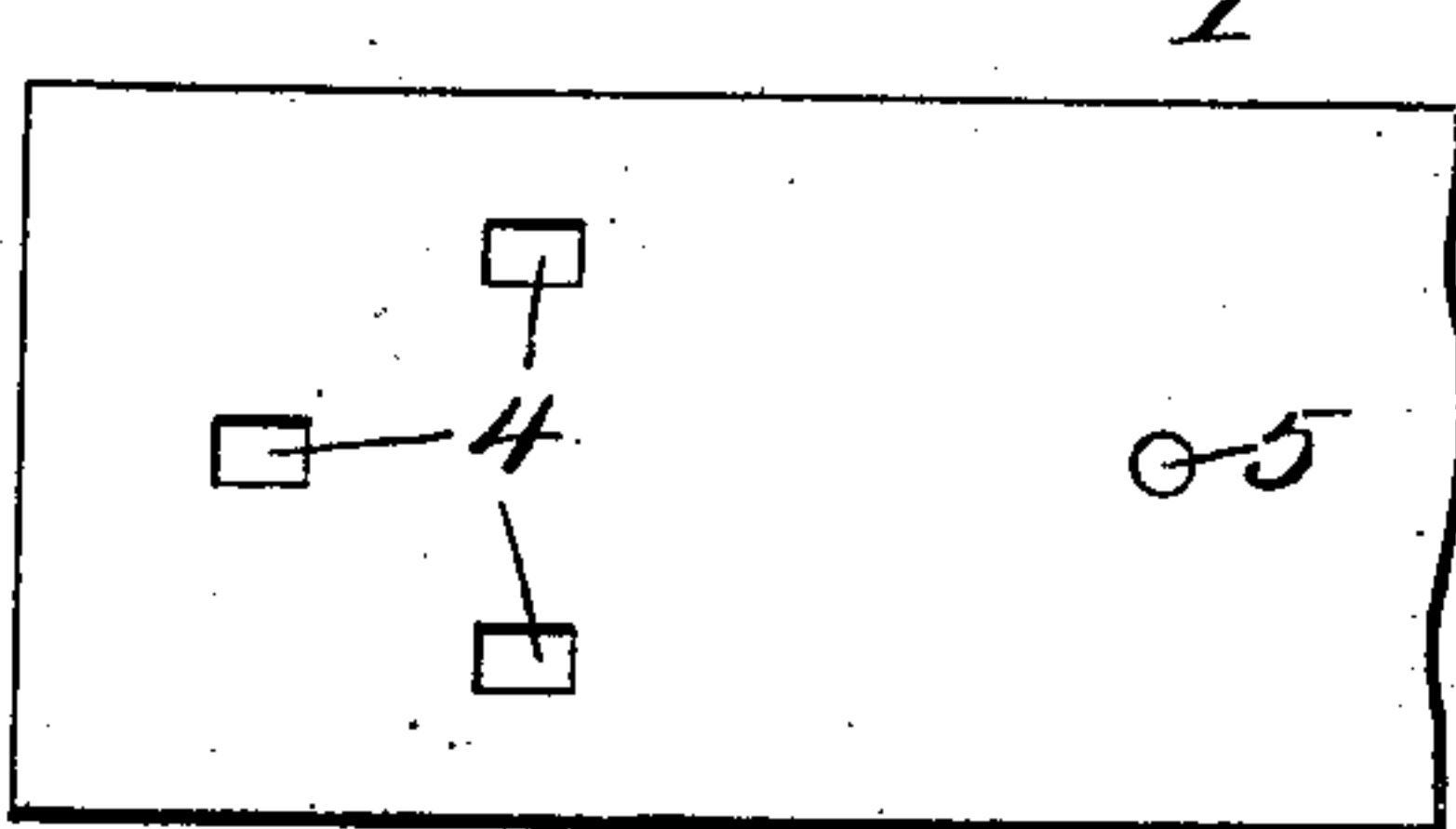
*Fig. 2.*



*Fig. 3.*



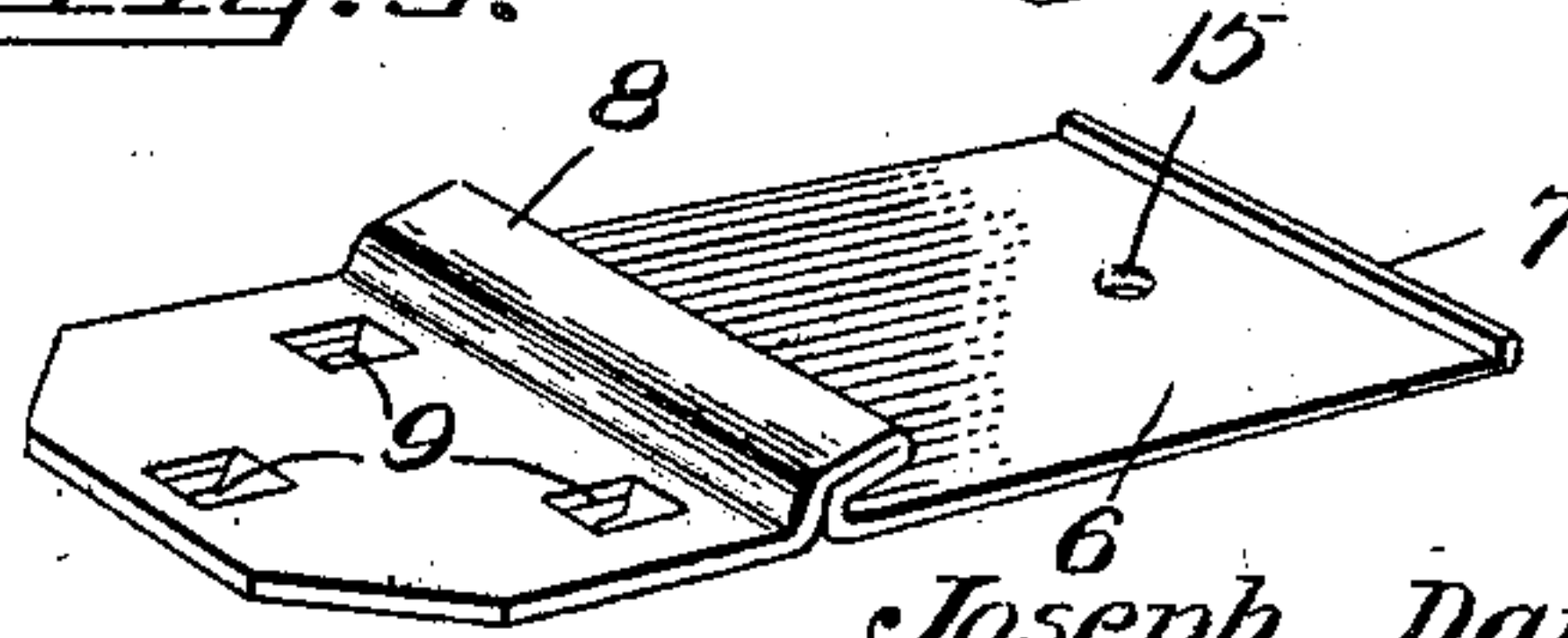
*Fig. 4.*



*Fig. 5.*



*Fig. 5.*



Inventor

Joseph Davidson

Witnesses

F. L. Gibson.

*[Signature]*

By Victor J. Evans

Attorney



# UNITED STATES PATENT OFFICE.

JOSEPH DAVIDSON, OF NORWICH, KANSAS.

## RAIL TIE AND BRACE.

No. 917,554.

Specification of Letters Patent.

Patented April 6, 1909.

Application filed July 17, 1908. Serial No. 444,031.

*To all whom it may concern:*

Be it known that I, JOSEPH DAVIDSON, a citizen of the United States of America, residing at Norwich, in the county of Kingman and State of Kansas, have invented new and useful Improvements in Rail Ties and Braces, of which the following is a specification.

This invention relates to metal rail ties and braces, and one of the principal objects of the same is to provide a tie made of sheet steel and having a marginal flange bent downward around the outer edge thereof to permit the tie to be anchored in the ground.

Another object of the invention is to provide a sheet steel tie with a marginal flange and a rail plate attached to the tie for holding down the rail to prevent spreading, sinking, twisting or creeping of the rails.

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 tie and chair embodying my invention and showing two rails secured to the tie by the rail chairs. Fig. 2 is a central, longitudinal sectional view through one of the chairs and one end of the tie. Fig. 3 is a plan view of the same. Fig. 4 is a plan view of one end of the tie. Fig. 5 is a detail perspective view of one member of the rail chair. Fig. 6 is a similar view of the other member thereof.

Referring to the drawing, the numeral 1 designates the rail tie, preferably formed of sheet metal, iron or other similar material, said tie having enlarged ends and a reduced central portion 2. A marginal flange 3 is bent downward from the outer edge of the tie to provide means whereby the tie may be anchored in the ground with the upper face of the tie practically flush with the upper surface of the ground. At each end of the tie a series of rectangular apertures 4 are formed, and a bolt hole 5 is formed in the tie some distance inward from the apertures 4.

One of the plate members comprises a rail chair 6 having a flange 7 bent upward therefrom. This member of the chair is preferably formed of sheet metal, and a portion of the plate is doubled upon itself to form an in-

wardly extending flange 8 of double thickness, the end of said plate having formed therein apertures 9 from which angular tongues 10 are formed, said tongues conforming in location and arrangement with the apertures 4 in the tie 1. The other member of the chair comprises a flat metal plate 11 having a bolt hole 12 therein and provided with an upwardly inclined flange 13. The member 6 of the chair is connected to the tie by inserting the tongues 10 in the apertures 4, and by sliding the base flange of the rail underneath the doubled flange 8 of the member 6. The member 11 is then placed in position with the outer edge thereof bearing against the flange 7 of the member 6. A bolt 14 extends through the hole 5 in the member 6 and through the bolt hole 12 in the member 11, as shown in Fig. 2, and a nut is applied thereto to hold the parts in place, as will be understood.

From the foregoing, it will be obvious that the rails may be secured to the tie without the expense of much labor and that when the rails are secured in place they are firmly held against spreading, creeping or twisting; that the device may be produced at slight cost and is very durable and not liable to get out of order.

I claim:

The herein described rail chair and tie comprising a sheet metal tie provided with a reduced central portion and a depending marginal flange, said tie being provided with apertures in the opposite ends thereof, a chair having a doubled portion to engage the base flange of the rail, tongues bent from said chair and engaging the apertures in the tie, said chair extending under the rail and provided with an upturned flange, a locking member designed to bear against said flange and to engage the base flange of the rail, and a single bolt for holding said locking member in place.

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

JOSEPH DAVIDSON.

Witnesses:

N. I. FARRIS,  
W. W. ROBBINS.