

A. E. RUNION.
STEEL TIE AND CLAMP.
APPLICATION FILED OCT. 27, 1909.

970,957.

Patented Sept. 20, 1910.

2 SHEETS-SHEET 1.

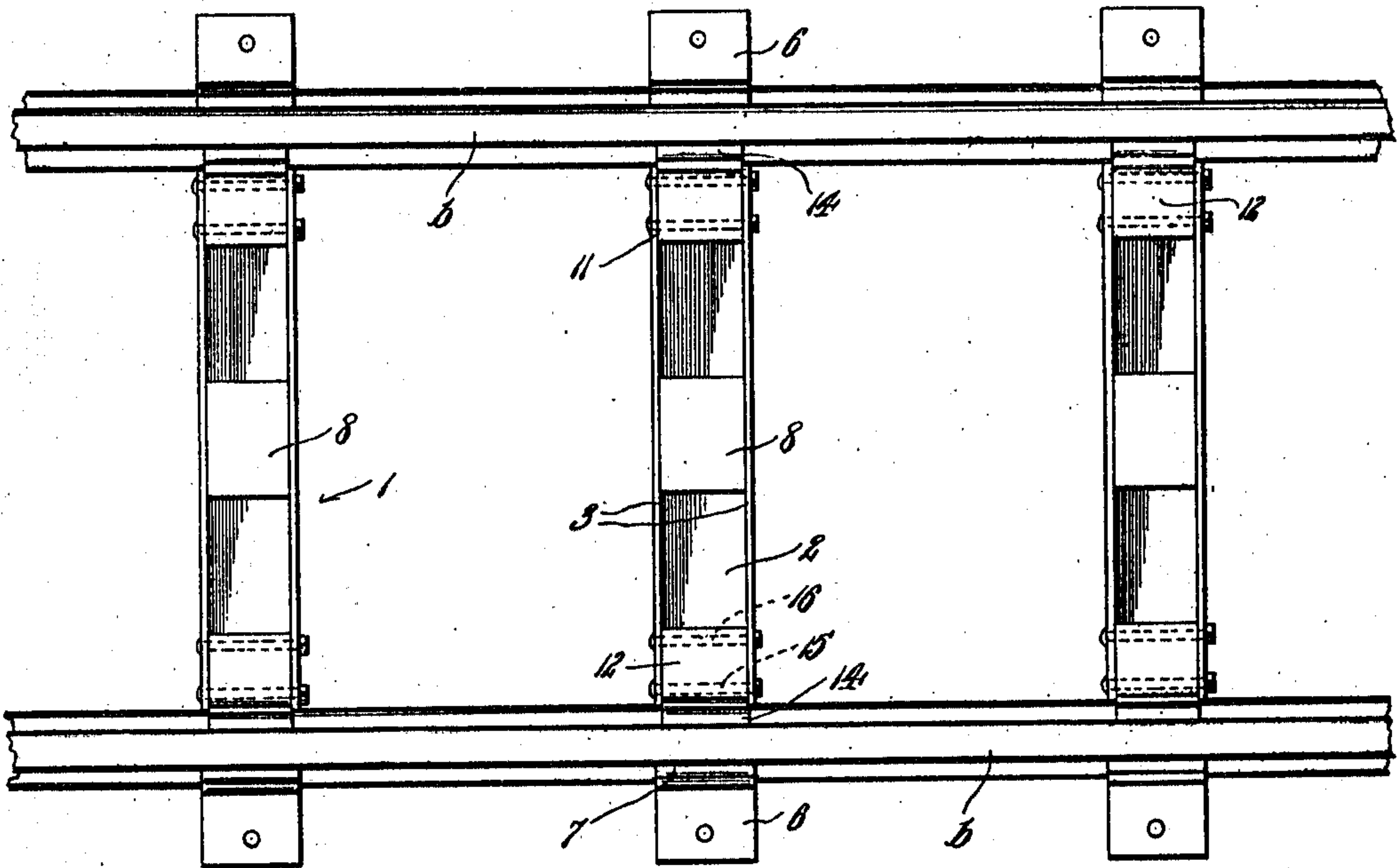


Fig. 1

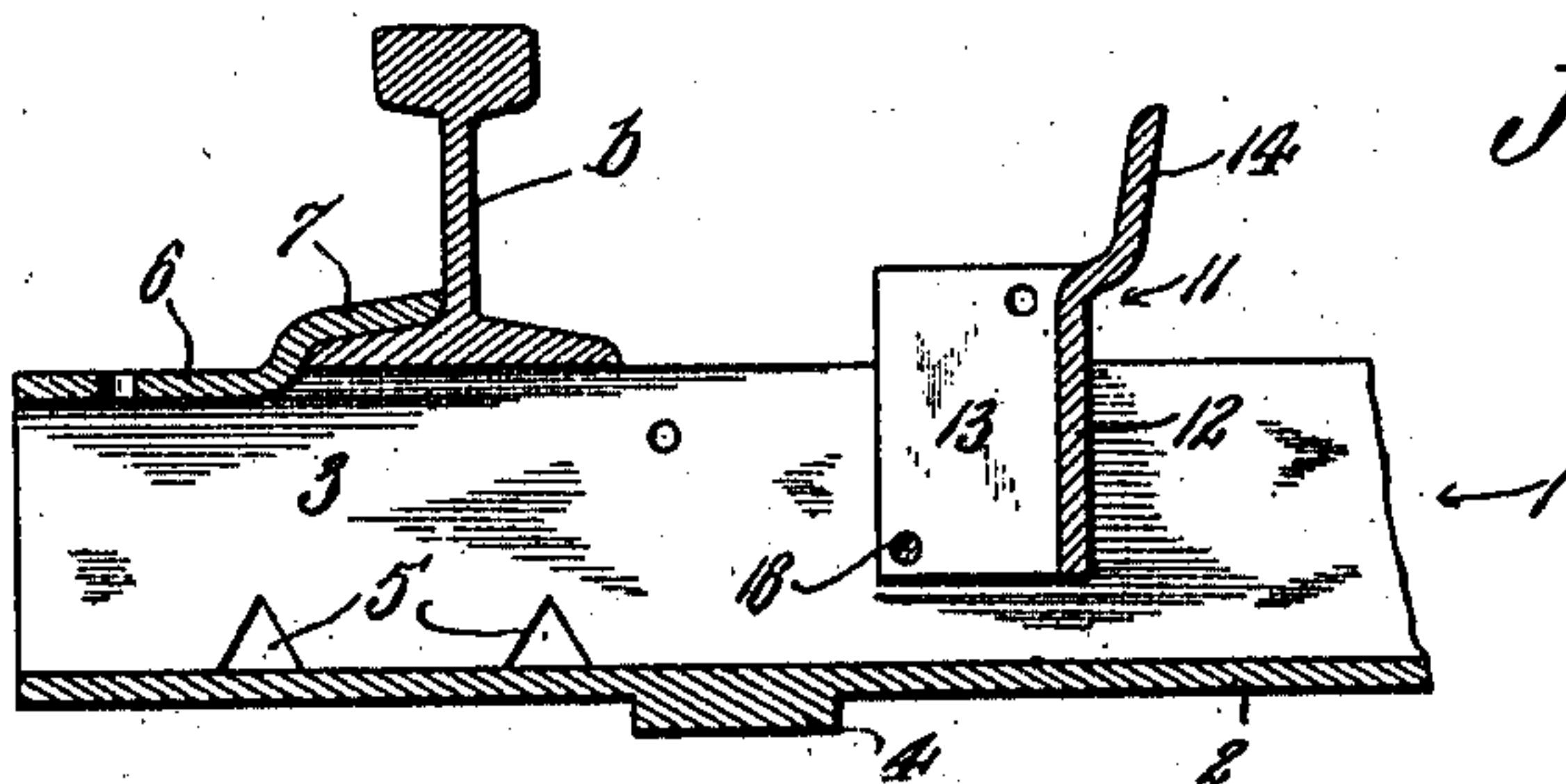
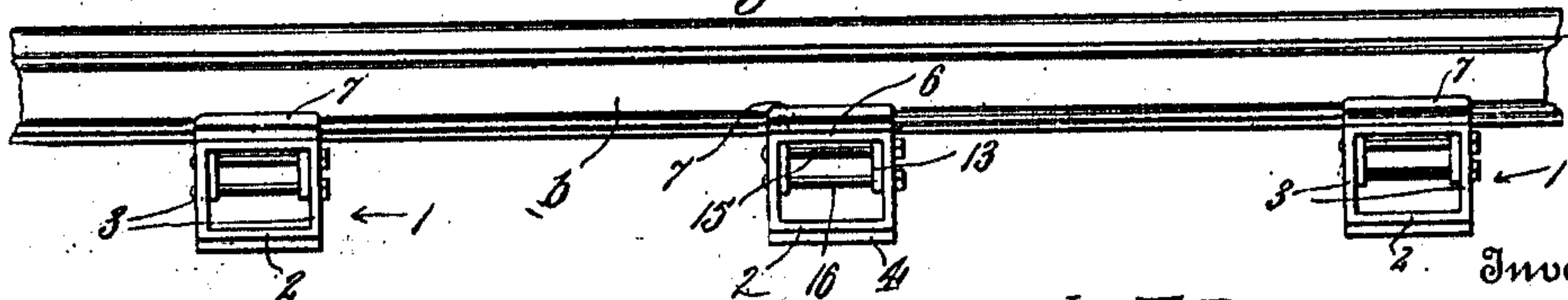


Fig. 2.

Fig. 3.



Witnesses
J. H. Crawford
J. H. Crawford

A. E. Runion

By Victor J. Evans
Attorney

A. E. RUNION.
STEEL TIE AND CLAMP.
APPLICATION FILED OCT. 27, 1909.

970,957.

Patented Sept. 20, 1910.

2 SHEETS-SHEET 2.

Fig. 4.

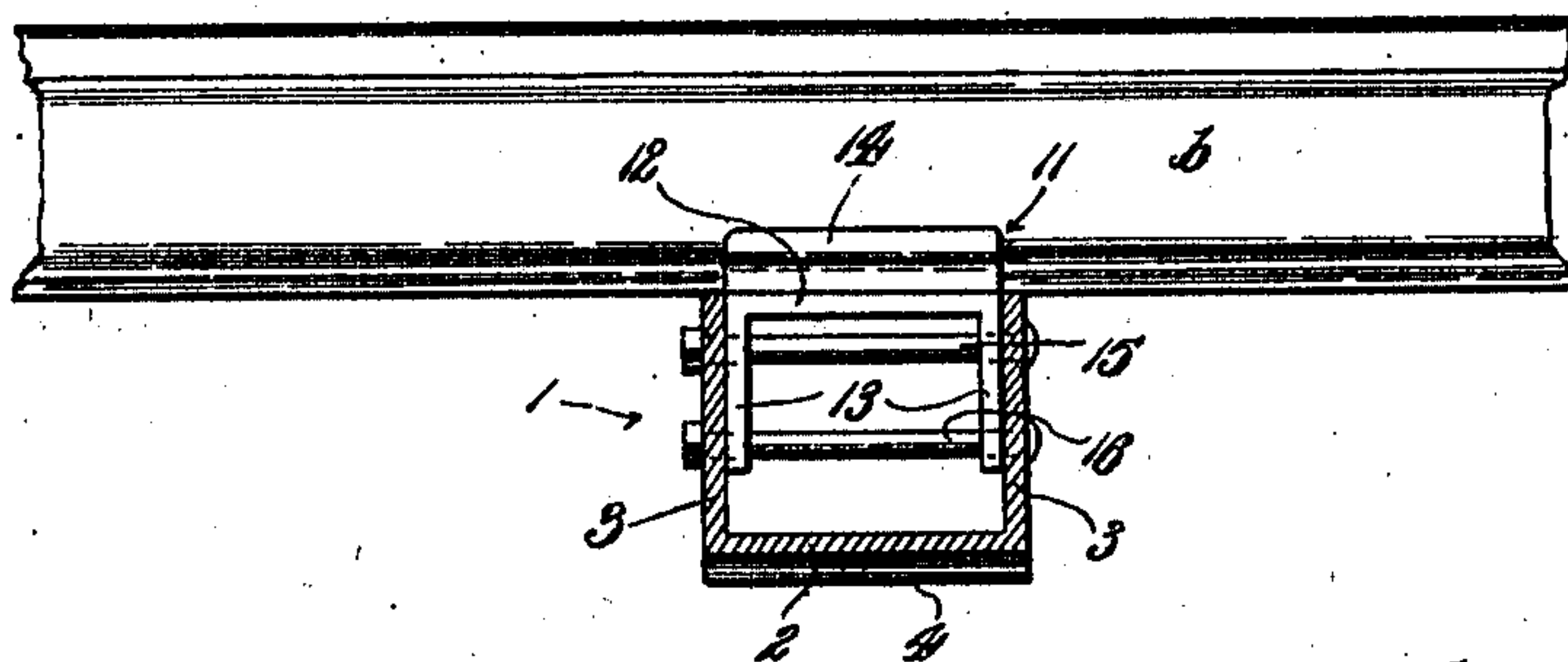
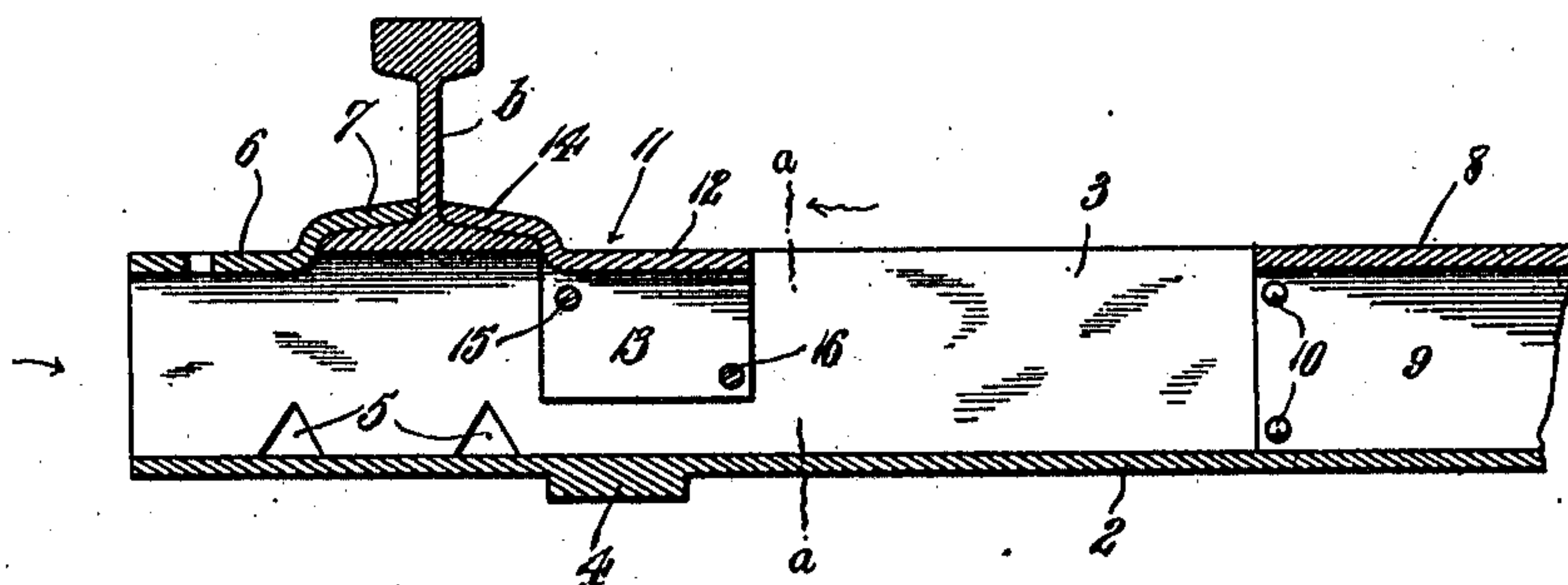
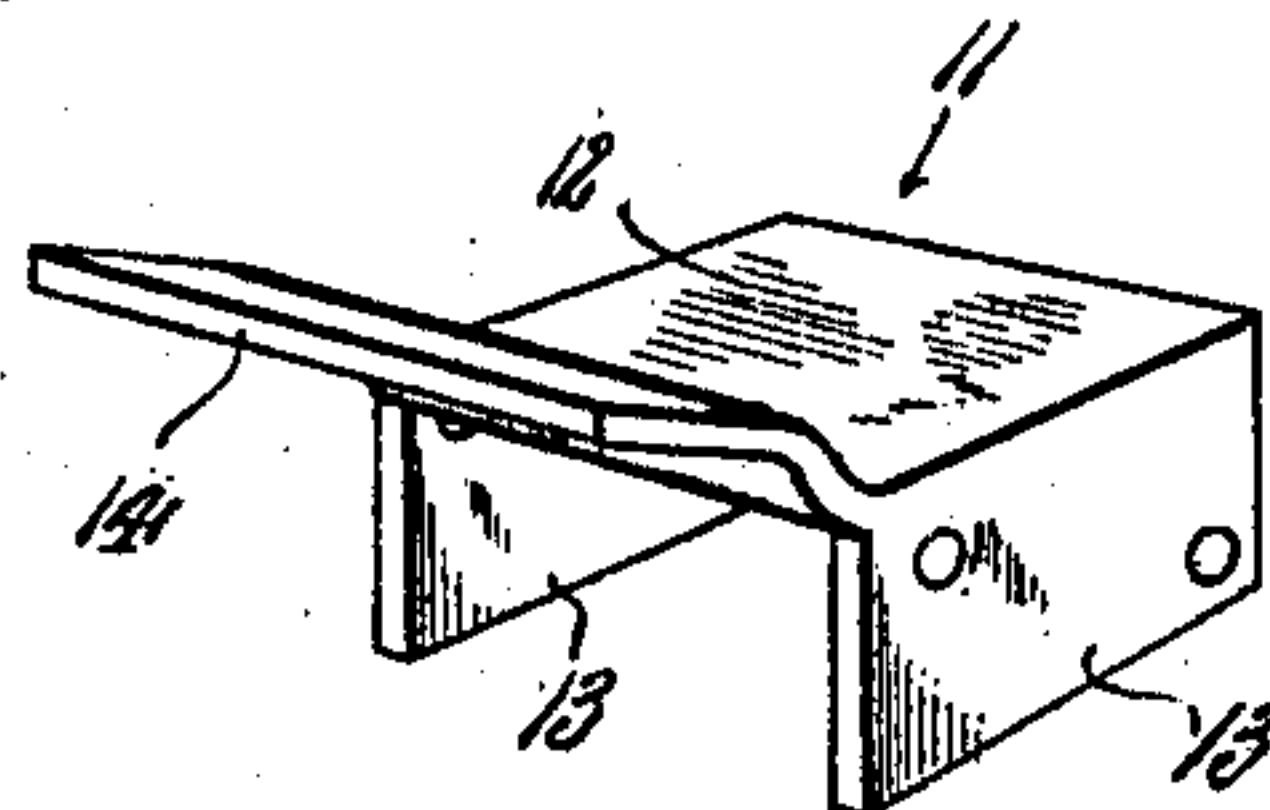


Fig. 5.

Fig. 6.



Witnesses
J. H. Crawford
J. W. Garmon

Inventor
A. E. Runion,

By Victor J. Evans
Attorney

UNITED STATES PATENT OFFICE.

ACE E. RUNION, OF CHANDLER, OKLAHOMA.

STEEL TIE AND CLAMP.

970,957.

Specification of Letters Patent. Patented Sept. 20, 1910.

Application filed October 27, 1909. Serial No. 524,851.

To all whom it may concern:

Be it known that I, ACE E. RUNION, a citizen of the United States, residing at Chandler, in the county of Lincoln and State of Oklahoma, have invented new and useful Improvements in Steel Ties and Clamps, of which the following is a specification.

This invention is an improved railway rail tie and clamp for supporting railway rails and securing the same in place so that they cannot spread and the said invention consists in the construction, combination and arrangement of devices hereinafter described and claimed.

One object of the invention is to provide an improved railway tie which is light, cheap, exceedingly strong and durable, is fire-proof and is not affected by water.

A further object of the invention is to effect improvements in the construction of a rail tie whereby the same is adapted for securing railway rails thereon so that they can not spread.

In the accompanying drawings:—Figure 1 is a plan of a portion of a railway track provided with rail ties and clamps constructed in accordance with my invention. Fig. 2 is a side elevation of the same. Fig. 3 is a detail longitudinal sectional view of a portion of one of my improved ties, showing a rail thereon engaged by the outer clamp member and showing the inner clamp member in raised position to permit the detachment of the rail. Fig. 4 is a similar view of the same, showing the detachable portion of the clamp secured in place and engaged with the base flange of the rail. Fig. 5 is a detail vertical transverse sectional view on the plane indicated by the line *a— a* of Fig. 4. Fig. 6 is a detail perspective view of the inner detachable member of the clamp.

My improved railway tie 1 is made of steel, is hollow, is rectangular in cross section and comprises a bottom 2 and the vertical sides or webs 3 which are formed integral with the bottom. On the under side of the bottom at a suitable distance from the ends thereof are ribs 4 which are formed integral therewith and extend downwardly therefrom and by engagement with the ballast or earth of the roadbed in which the tie is embedded serve to prevent longitudinal movement of the tie as will be understood. Near the ends of the tie the sides or side webs 3 thereof are provided with openings 5 which are of inverted V-shape and

extend to the bottom of the tie. The tie is open at its ends and is formed at its ends on its upper side with fixed clamp members or chair members 6 which partially cover the upper side of the tie and are provided with inwardly and upwardly extending inclined flanges 7 to bear on the upper sides of the outer base flanges of the rails "b." The said rails bear directly on and are supported by the upper edges of the sides or webs of the ties.

At the center of each tie is an inverted U-shaped plate 8 which extends across the same from side wall to side wall thereof and the downturned webs or side portions 9 of which bear against the sides of the tie, extend to the bottom thereof and are secured to the sides of the tie, as by means of rivets or bolts 10. The said plates 8 bridge and strengthen the central portions of the ties and also form stepping plates which enable the track to be readily walked.

In connection with the fixed outer clamp members 6 of the tie, I provide detachable inner clamp members 11 each of which comprises a plate 12 to extend across the tie downturned flanges or webs 13 to bear against the inner surfaces of the side walls of the tie, and an upwardly and outwardly inclined flange 14 to bear on the inner base flange of one of the rails. The said detachable clamp members are secured to the tie each by means of bolts 15—16, which extend through the flanges 13 and also through the side walls or webs of the tie. When the bolt 15 is removed, the bolt 16 forms a pivot for the detachable clamp member to enable the latter to be upturned as shown in Fig. 3 so as to release the rail. Hence, in order to release the rail for the purpose of effecting repairs it is only necessary to first remove the bolt 15. When the bolt 15 as well as the bolt 16 is in place, the clamp member 11 is firmly secured to the tie and caused to bear on the inner base flange of the rail so that by the co-action of the fixed outer clamp member 7 and the detachable inner clamp member 11, the rail is fastened so securely on the tie that it cannot spread or become casually dislodged.

It will be noted that by providing the tie with the ribs 4 the said tie will be firmly held within the roadbed, and that by providing the sides 3 of the said tie with the openings 5 the ballast within the tie will have access to the ballast adjacent the sides

of the tie, thus effectively preventing the movement of the tie in either a lateral or a longitudinal direction.

Having thus described the invention, what is claimed, is:—

10 The herein described metallic tie comprising a bottom, sides and fixed clamp members, the clamp members being connected with the sides of the tie adjacent the open ends thereof, the sides being provided with openings, the base being provided with ribs, and inner clamp members pivotally connected with the sides of the tie, said clamp members each

comprising a top plate provided with side plates, and with a projecting overlying flange, each side being further provided with a pair of openings spaced away from each other, the sides of the tie being also provided with spaced coinciding openings, and removable securing elements for said openings. 15 20

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

ACE E. RUNION.

Witnesses:

T. C. Ross,

A. V. Ross.