

T. E. STOCKFORD.
RAILWAY TIE AND FASTENING.
APPLICATION FILED MAY 29, 1908.

905,604.

Patented Dec. 1, 1908.

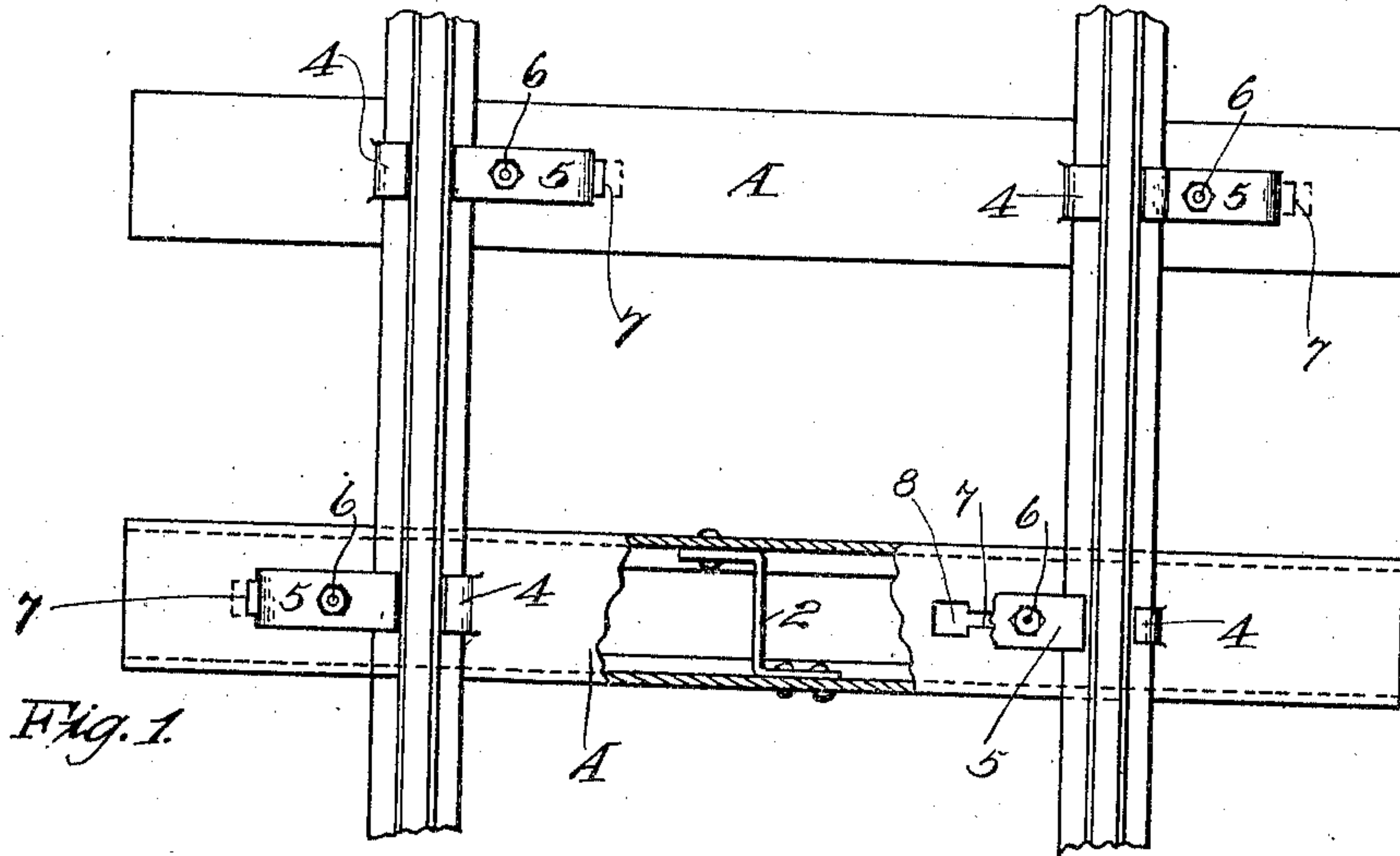


Fig. 1.

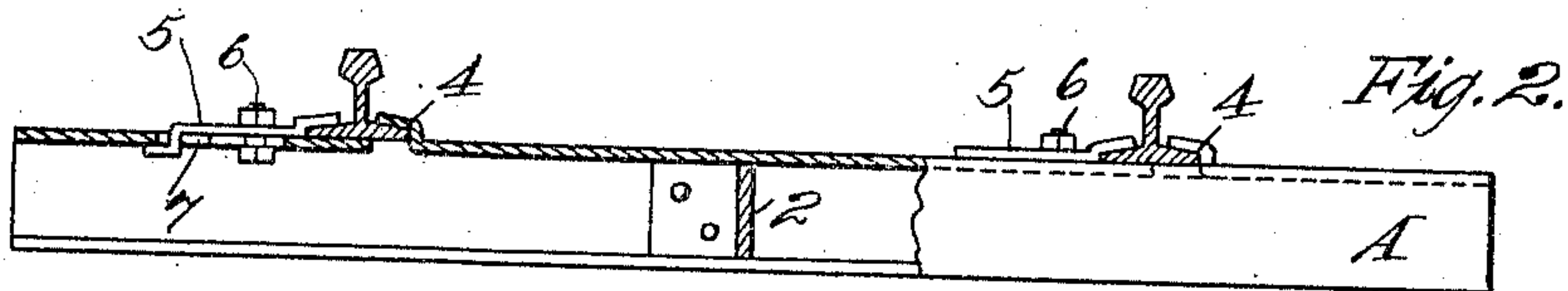


Fig. 2.

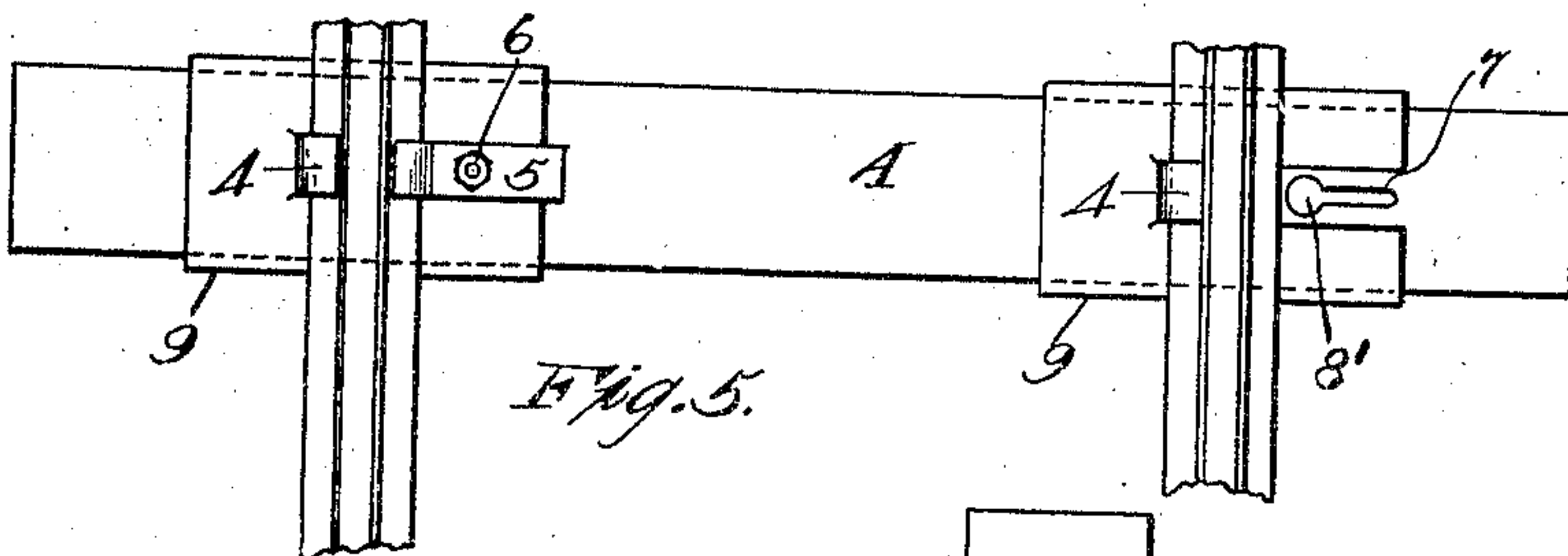


Fig. 5.

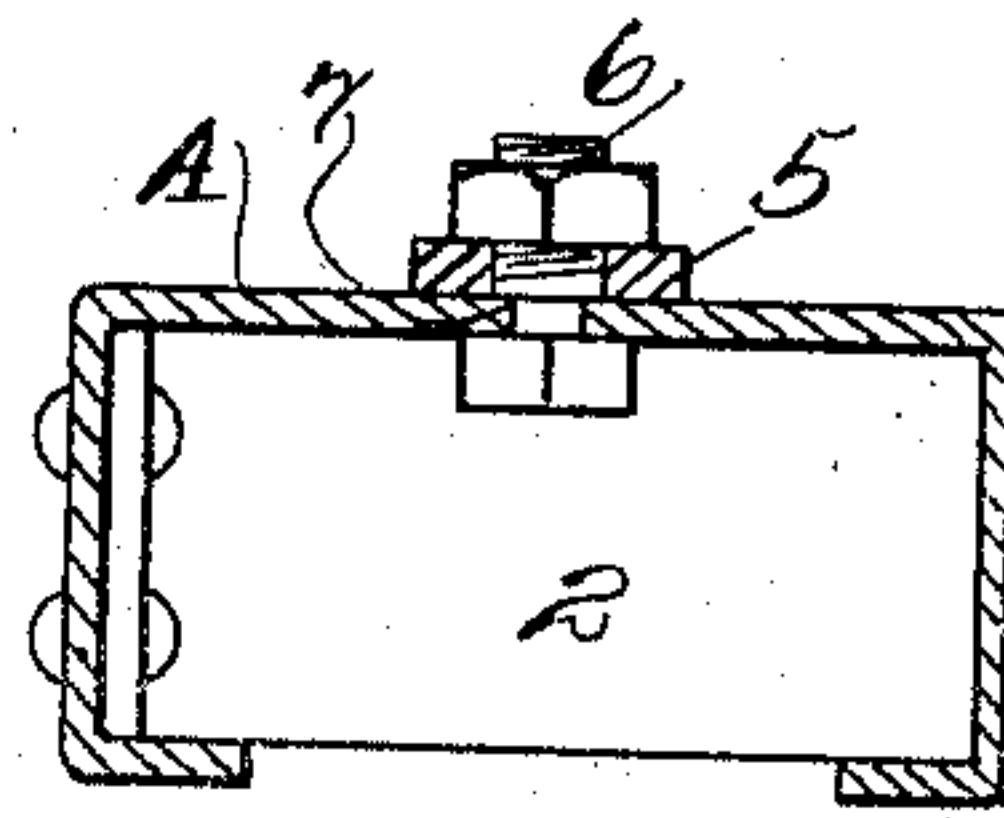


Fig. 3.

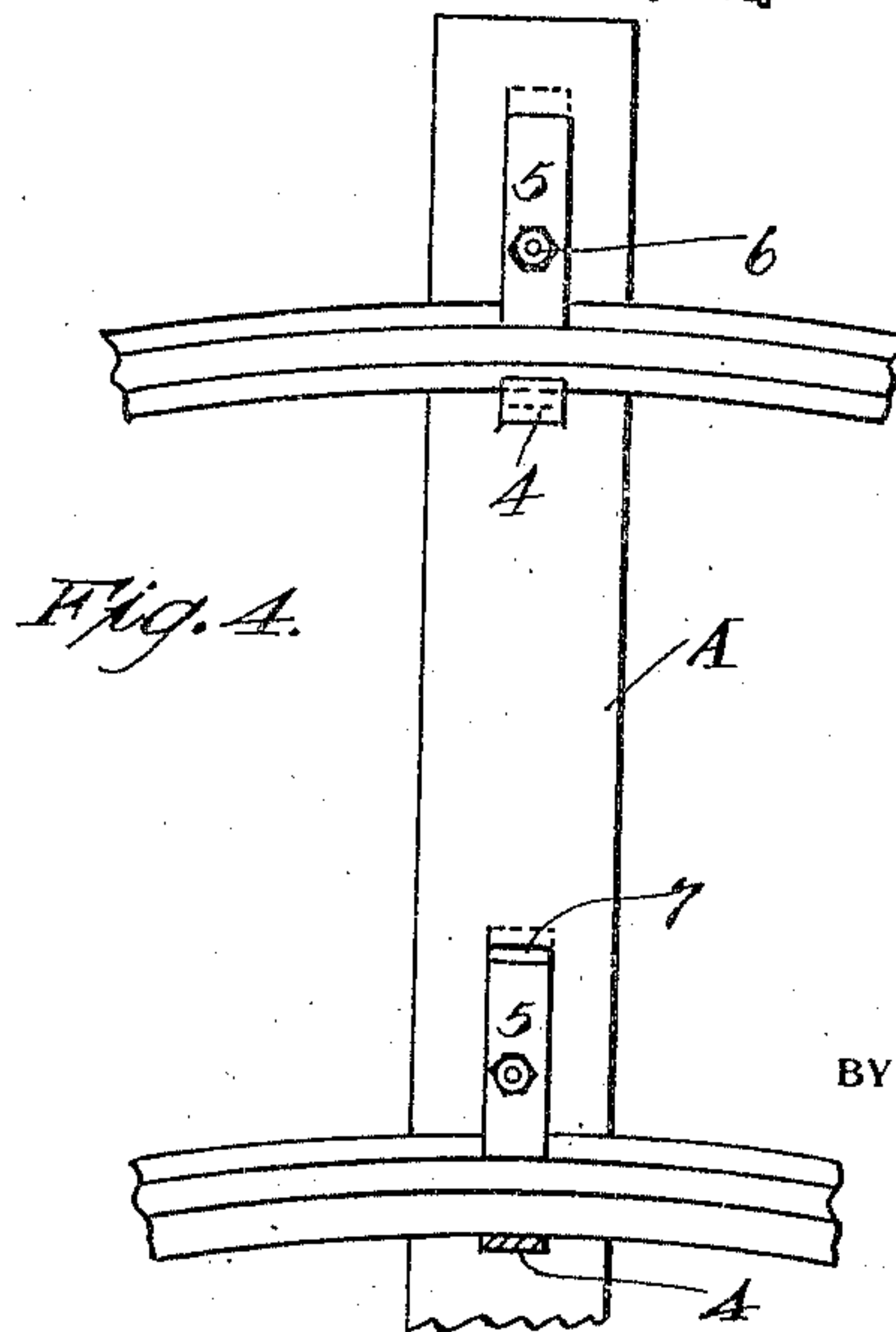


Fig. 4.

WITNESSES

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RAILWAY-TIE AND FASTENING.

No. 905,604.

Specification of Letters Patent.

Patented Dec. 1, 1908.

Application filed May 29, 1908. Serial No. 435,715.

To all whom it may concern:

Be it known that I, THOMAS E. STOCKFORD, citizen of the United States, residing at Williams, in the county of Colusa and State of California, have invented new and useful Improvements in Railway-Ties and Fastenings, of which the following is a specification.

My invention relates to improvements in metal railway ties, means for preventing end displacement of such ties, and means carried thereon for locking the railway rails in place.

It consists in the combination of parts, and in details of construction which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a plan. Fig. 2 is a side elevation partly in section. Fig. 3 is a cross section. Fig. 4 is a plan as adapted to curves. Fig. 5 shows a modification.

My tie or bearer is made preferably of steel or equivalent metal of sufficient thickness and strength for the purpose, and this metal is bent into channel iron form; or channel iron may be manufactured especially for the purpose. Such a tie is shown at A. These ties are adapted to be laid upon the road-bed, with the flanges down-turned and the interior portion filled with the earth or ballast which completes the surface of the road-bed.

Intermediate of the length of the tie is a transverse plate 2, which is bolted in place, having, for convenience, two flanges through which bolts may be passed through opposite sides of the tie. This plate forms an abutment against which the ballast material may be rammed hard from each end of the tie, and when the exterior material is filled up against these ends, it forms a solid abutment which prevents the tie from being shifted longitudinally by transverse strains brought upon it by the side stresses of passing trains especially where curves exist.

The top of each tie has a tongue 4 cut out and turned upwardly. These fixed tongues are made to face in one direction, and by laying the ties alternately, one of the tongues of the first tie will engage the outside flange of its rail, and the other tongue will engage the inside flange. On the next tie, when laid, the position of the tongues will be reversed, and so on alternating, so that when the ties have been placed with the rails in position and the ballasting material fully tamped

and filled in, the rails are practically locked to the ties by the alternating position of the tongues 4, every other tongue engaging the outside of a rail, and the intermediate ones the inside. In order however to more fully secure the rails, I have shown separate plates 5 which are guided and slidable upon each tie to engage with the rail flange opposite to the fixed tongue or clip. The ties are slotted lengthwise, and these plates have tongues at the rear ends which are bent downward so that they enter and interlock with the slot 7, while the bolt 6 also passing through the slots at points nearer to the holding end of the clamp, acts in conjunction with the tongues to prevent the plates from turning, or being displaced sidewise. At the same time, the ends of the plates which overlap the rail flanges, are firmly secured by screwing the nuts tightly upon the bolts.

The bolts are made with a flattened shank contiguous to the fixed head, and the slots 7 in the ties are made with an enlarged opening at one end as shown at 8. This opening is of sufficient size to admit the full diameter of the bolt, and the bolt having been passed through the hole in the clip or locking plate 5, the tongue of the latter will also have been passed into the hole at the outer end of the slot, and the nut being turned upon the bolt, the inner overhanging end will press upon the rail flange, and hold it firmly in place.

If it be desired to make the ties of comparatively light material a reinforcing plate 9 may be employed and secured to the top and sides of the tie at each point where a rail crosses, in which case one side may be slotted or left open for the connection of the plate 5 with the body of the tie. The tongue on the opposite side in such case may either be turned up from the body of the tie through this slot, which is sufficiently extended for the purpose, or the tongue may be turned up from the reinforcing plate itself.

In Fig. 5 the enlarged openings 8¹ are shown round while in Fig. 1 the corresponding opening is shown substantially square. In said Fig. 5 the bolt is slipped through the enlarged opening and then moved outwardly from the rail into the reduced portion thereof and then secured by the tightening of its nuts.

Having thus described my invention, what

I claim and desire to secure by Letters Patent is—

1. A railway tie consisting of a metal plate bent into channel form, adapted to have its edges embedded into the road-bed surface, a plate fixed transversely within the shell of the tie at a point intermediate of the rails and adapted to form an abutment against which the ballasting material may be firmly rammed from each end, said plate having its ends bent to form flanges which are secured to the inner side of the tie.

2. A railway tie consisting of a metal plate bent into channel form having downturned edges to be embedded in the road surface, a transverse abutment fitted within the central portion of the channel against which the ballast material may be rammed from opposite ends to retain the tie in place, said abutment having parallel end flanges by which it may be secured to the inner side of the tie, tongues cut out from the surface of the tie, and arched upwards, said tongues on each tie pointing in the same direction so that one tongue engages the outside of a rail flange, and the other the inside, each alternate tie being reversed in position to reverse the locking position of the tongues or clips.

3. In a railway tie of the character described, a sheet metal channel iron form having open ends, an intermediate transverse abutment against which the road ballasting material is rammed to prevent transverse displacement, said abutment having parallel oppositely extending end flanges by which it is secured to the opposite sides of the tie, upwardly curved tongues or clips cut out of and attached to the tie, said tongues on each tie pointing in the same direction to engage respectively an outer and an inner rail flange, and independent clip plates adapted to engage the opposite rail flange, said plates having tongues engaging with the rail, and bolts whereby they are locked and prevented from turning.

4. In a railway tie of the character described, a sheet metal channel iron structure having its edges sunk in the road-bed, and a centrally placed abutment against which ballasting material is rammed from opposite ends, tongues cut from the surface of the tie having their upturned flange holding ends pointing in the same direction to respectively engage an outer and an inner rail flange, slots made in the tie in line with the tongues, independent clip plates having rearwardly extending tongues bent downwardly adapted to enter the enlarged ends of the slots in the tie, and bolts passing through bolt-holes in the clip between the tongue-bearing end and the rail, the shanks of said bolt being flattened to fit the narrower portion of the slots to prevent the bolt from turning.

5. In a railway tie of the character described, sheet metal bent to form channel iron ties, the edges of which are embedded in the earth, transverse abutments fixed within the tie, supplemental reinforcing channel iron sections fitting over the exterior of the ties in the line of the rails, said reinforcing strips having upturned tongues bent to form clips to engage one side flange of the rails, slots having rounded openings at the ends, clips having one end adapted to engage and hold the rail flange opposite to the fixed clips, and a downwardly and rearwardly bent tongue upon the opposite end to engage a slot in the tie, and a bolt having a flattened shank adapted to fit the slot, the body of said bolt extending through the clip and having a nut by which it is secured in place.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

THOMAS E. STOCKFORD.

Witnesses:

M. V. COLLINS,
JAMES MASON.