

J. KLUSMEYER.  
RAILWAY TIE.  
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919,886.

Patented Apr. 27, 1909.

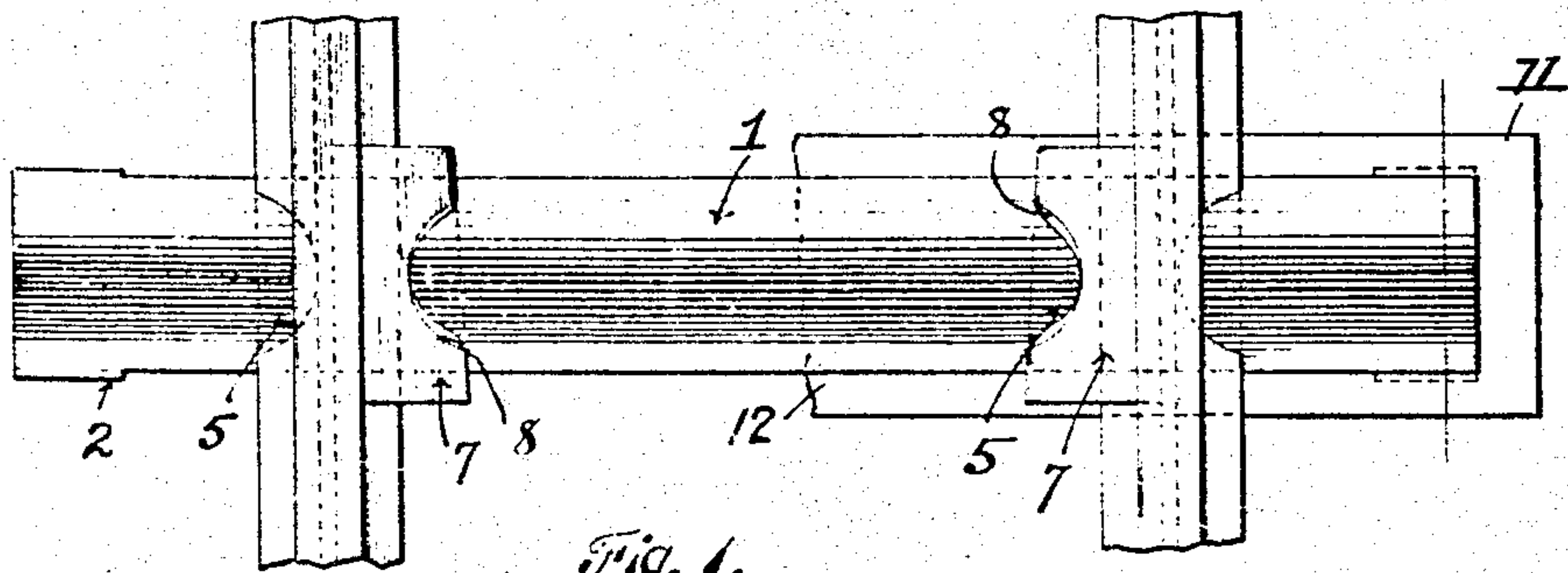


Fig. 1.

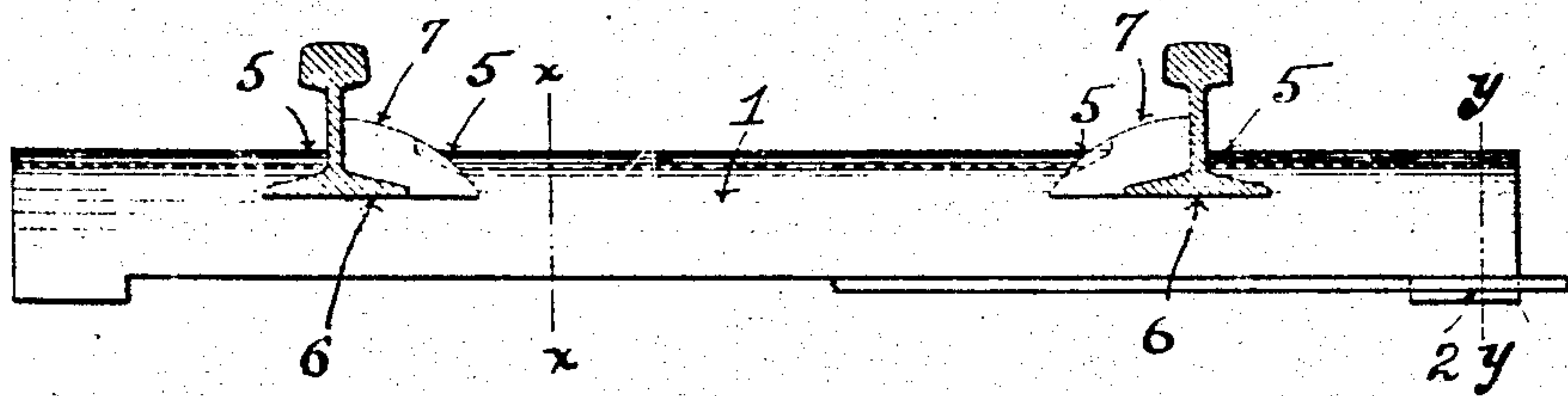


Fig. 2.

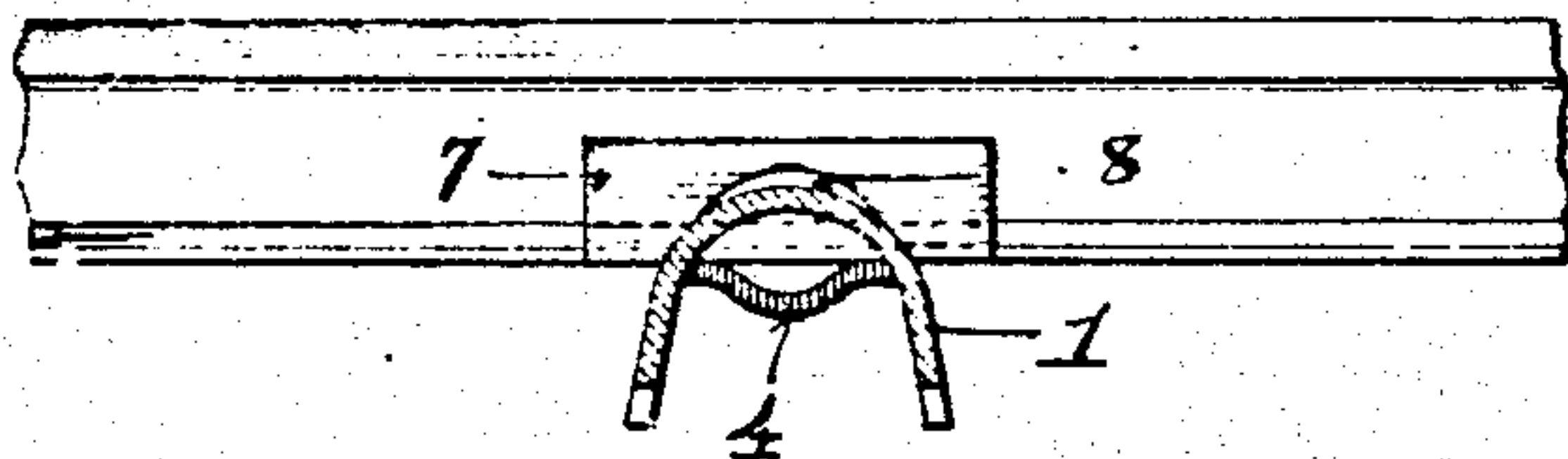


Fig. 3.

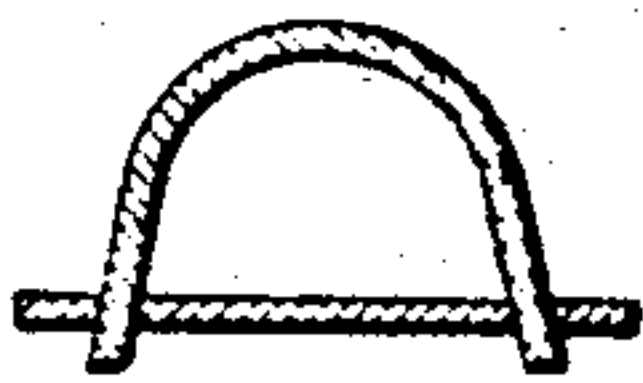


Fig. 6.

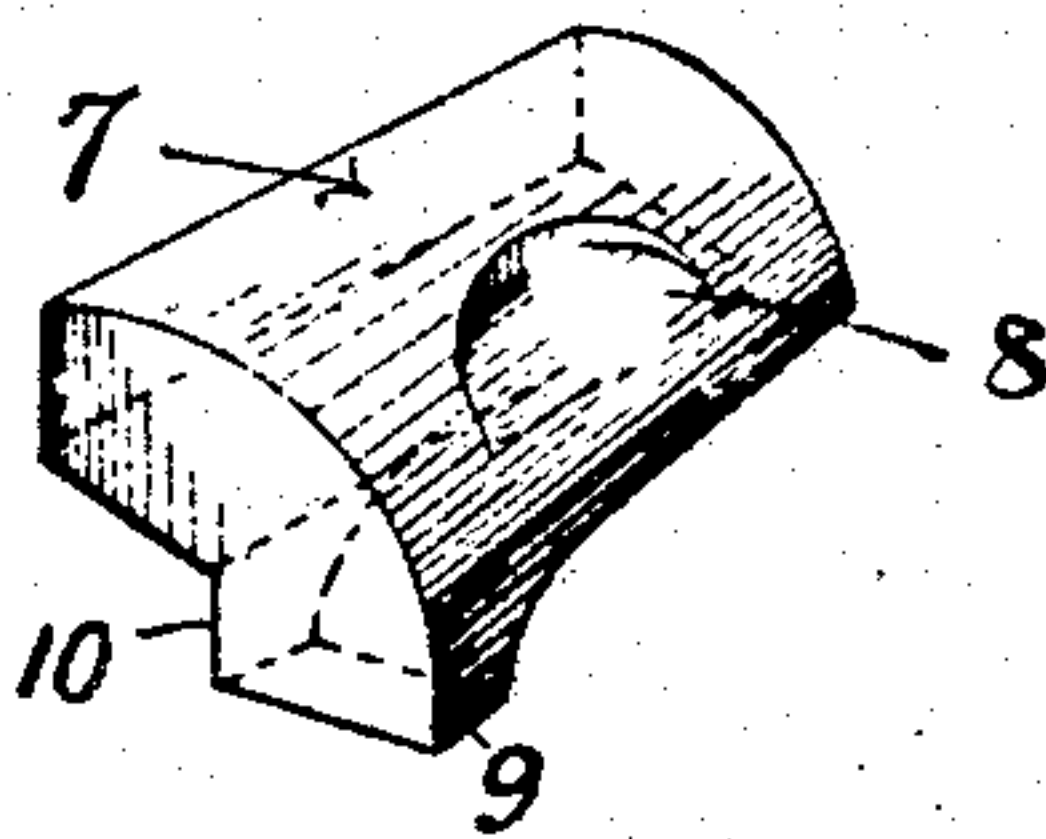


Fig. 4

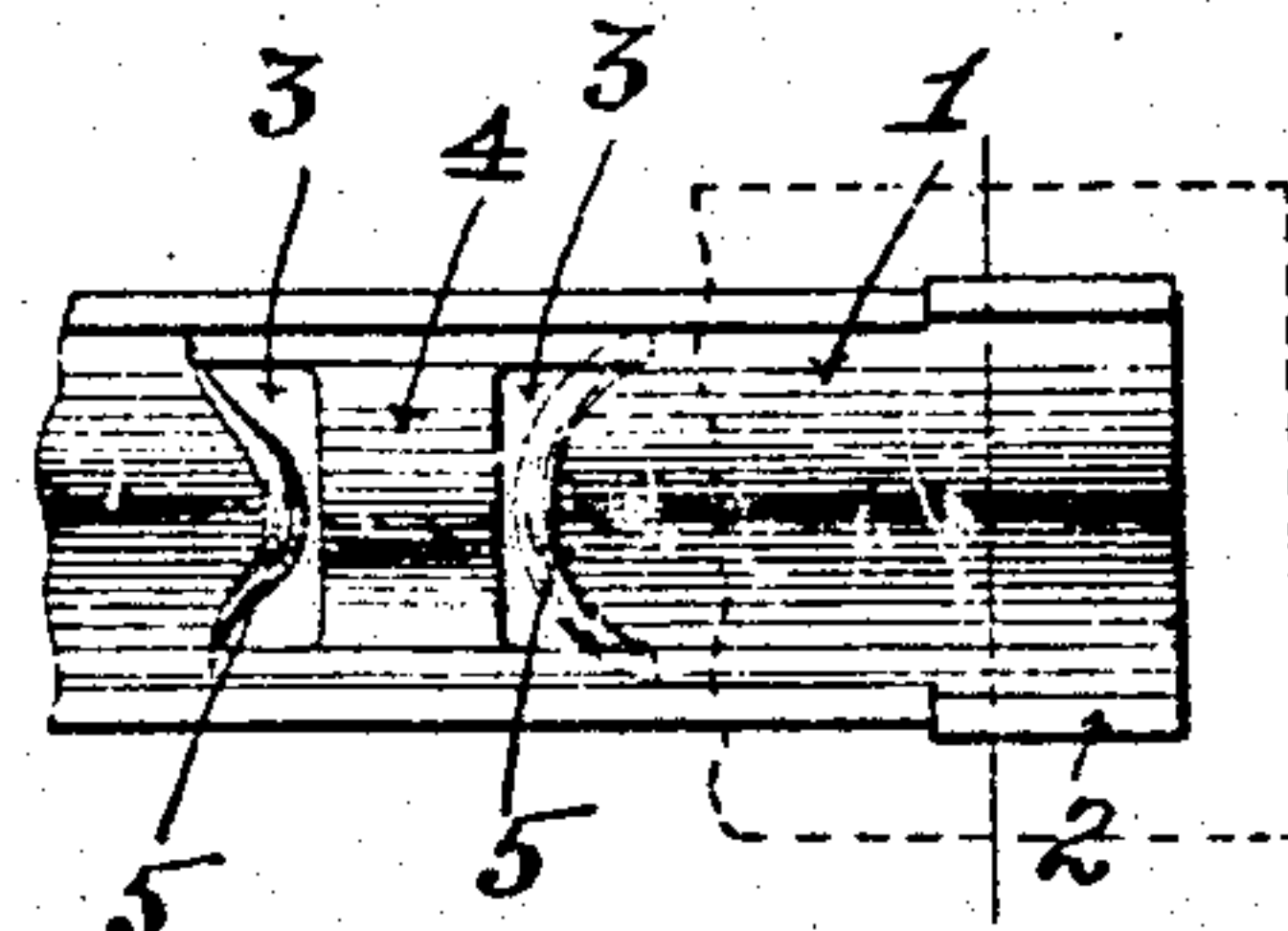


Fig. 5.

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# UNITED STATES PATENT OFFICE.

JOHN KLUSMEYER, OF BUFFALO, NEW YORK.

## RAILWAY-TIE.

No. 919,886.

Specification of Letters Patent.

Patented April 27, 1908.

Application filed September 10, 1907. Serial No. 392,153.

*To all whom it may concern:*

Be it known that I, JOHN KLUSMEYER, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Railway-Ties, of which the following is a specification.

My invention relates to improvements in railway ties and to means for securing the railroad rails thereto.

The object of my invention is to provide a metal tie which may be formed from a single flat piece by a single operation, and to provide means for securing and locking a rail thereto by the employment of a single piece.

Referring to the drawings herewith Figure 1 is a plan view of my improvement showing the sections of two rails in place. Fig. 2 is a side elevation, the rails being shown in section. Fig. 3 is a vertical section on the line  $x-x$  of Fig. 2. Fig. 4 is a perspective of my locking block. Fig. 5 is a plan view of a portion of a tie. Fig. 6 is a section on the line  $y-y$  of Fig. 2.

1 represents the tie proper which is formed from a single piece of flat metal bent into the shape of an inverted U, as clearly shown in Figs. 3 and 6. The edges of the tie may be provided with downward extending portions 2 to engage with the roadbed to prevent lateral movement of the tie. To form the seats for the rails and the necessary means for locking the rails to the tie, the body of the tie is provided with the punchings 3, 3 as clearly shown in Fig. 5. The intervening portion 4 is bent downwardly as clearly shown in Fig. 3. The crescent-shaped lips 5 thus formed are bent slightly upward to permit the seating of the rails upon the flat portions 6 formed by the punchings 3 and the downward bending of the portion 4. The seat for the rail being thus formed, the rail is placed thereon and shoved outwardly so that the base on one side of the rail engages underneath the outer lip or lug 5, and the rail is now in position ready to be locked.

In the accompanying drawings I have shown the rails as being placed on their seats, and then being shoved outwardly to engage with the outer lips or lugs 5 but manifestly the rails might be shoved inwardly to engage with the inner lips or lugs 5 and the same results be thereby attained.

The locking is attained by means of a wedge shaped block 7 clearly shown in Fig. 4,

the inner and under portion of which is conformable to the base and web of the rail and the outer portion of which is tapered and conformable to the inner lip or lug 5. This block is provided with a depression or notch clearly shown at 8 in Fig. 4, so that when it is driven into place the lip 5 upon the tie will engage in the notch 8 and prevent it from jarring out or being otherwise removed than intentionally. The depression of the notch 8 is shown in the figure much exaggerated. Only a very slight depression is required to safely lock the block in place.

In Fig. 4 I have shown a depending lug 9 on the lower surface of the block 7. When block 7 is driven home lug 9 is adapted to extend below the surface of the seat 6 and thus engaging the side of the rail it will prevent block 7 from being driven further than allowed by the engaging walls of the rail and the lug. Lug 9 may be provided with a slightly tapered inner surface 10 or with a flat surface at right angles to the lower surface of the block. Manifestly block 7 may be made with or without lug 9 the advantage in using it depending somewhat on how much block 7 is tapered.

11 is a flat plate shown in Figs. 1 and 2 as being secured to one end of my tie 1 and broken off at 12. This plate 11 is designed to form a bottom support for the tie and it is provided at either end with slots through which the downwardly extending portions 2 are adapted to pass and thus be interlocked. The necessity of using the plates 11 will depend very largely upon the conditions of the roadbed. In some cases it will be advantageous to use them and in other cases they may be omitted.

It will thus be seen that by determining the punchings in the tie proper the gage of the rails is absolutely obtained, thus insuring perfect gage and perfect parallelism of the rails. The invention therefore does away entirely with the use of all spikes or bolts and the construction by which the portion 4 is provided reinforced the strength of the tie directly underneath the rail and provides a perfect support therefor.

Having thus described my invention what I claim is:

1. A railway tie formed from a single piece of metal having punchings therein and bent into the form of an inverted U, seats for the rails formed by the downwardly bent inter-



vening sections between said punchings and two pairs of lips struck up out of the body of the tie overhanging said seats.

2. A railway tie formed from a single piece 5 of metal having punchings therein and bent into the form of an inverted U, seats for the rails formed by the downwardly bent intervening sections between said punchings, two pairs of lips struck up out of the body of the 10 tie overhanging said seats, and downwardly extending portions on the four end edges of the tie adapted to engage with the roadbed and prevent lateral movement of the tie.

3. A railway tie formed from a single 15 piece of metal having punchings therein and bent into the form of an inverted U, seats for the rails formed by the downwardly bent intervening sections between said punchings, two pairs of lips struck up out of the body 20 of the tie overhanging said seats, and locking blocks adapted to engage with one side of the bases of the rails and one of each pair of said lips.

4. A railway tie formed from a single 25 piece of metal having punchings therein and bent into the form of an inverted U, seats for the rails formed by the downwardly bent intervening sections between said punchings, two pairs of lips struck up out of the 30 body of the tie overhanging said seats, locking blocks adapted to engage with one side of the bases of the rails and one of each pair of said lips, and means for locking said blocks and one pair of said lips when said blocks 35 are driven to place.

5. A railway tie formed from a single piece of metal having punchings therein and bent into the form of an inverted U, seats for the rails formed by the downwardly bent intervening sections between said punchings, two 40 pairs of lips struck up out of the body of the tie overhanging said seats, locking blocks adapted to engage with one side of the bases of the rails and one of each pair of said lips, 45 and a lug on the lower end surface of each of said blocks.

6. A railway tie formed from a single piece of metal having punchings therein and bent into the form of an inverted U, seats for the 50 rails formed by the downwardly bent inter-

vening sections between said punchings, two pairs of lips struck up out of the body of the tie overhanging said seats, locking blocks adapted to engage with one side of the bases of the rails and one of each pair of said lips, 55 means for locking said blocks and one pair of said lips when said blocks are driven to place, and a lug on the lower end surface of each of said blocks.

7. A railway tie formed from a single piece 60 of metal having punchings therein and bent into the form of an inverted U, seats for the rails formed by the downwardly bent intervening sections between said punchings, two pairs of lips struck up out of the body of the 65 tie overhanging said seats, and tapered locking blocks adapted to be locked in position between one side of the bases of the rails and one of each pair of said lips.

8. A railway tie comprising a single piece 70 of metal having punchings therein and bent into the form of an inverted U, seats for the rails formed by the downwardly bent intervening sections between said punchings, two pairs of overhanging crescent shaped lips 75 struck up out of the body of the tie upon the outer edges of said punchings, one of each pair of said lips being adapted to engage with one side of the bases of the rails and locking blocks adapted to engage the opposite side of 80 the bases of the rails and the opposite lips of each pair of said lips.

9. A railway tie formed from a single piece of metal having punchings therein and bent into the form of an inverted U, seats for the 85 rails formed by the downwardly bent intervening sections between said punchings, two pairs of lips struck up out of the body of the tie overhanging said seats, downwardly extending portions on the four end edges of the 90 tie adapted to engage with the roadbed and prevent lateral movement of the tie, and a bottom plate adapted to lock with said downwardly extending portions.

In testimony whereof, I have hereunto set 95 my hand in the presence of two witnesses.

JOHN KLUSMEYER.

Witnesses:

J. WM. ELLIS,  
E. A. KELLY.