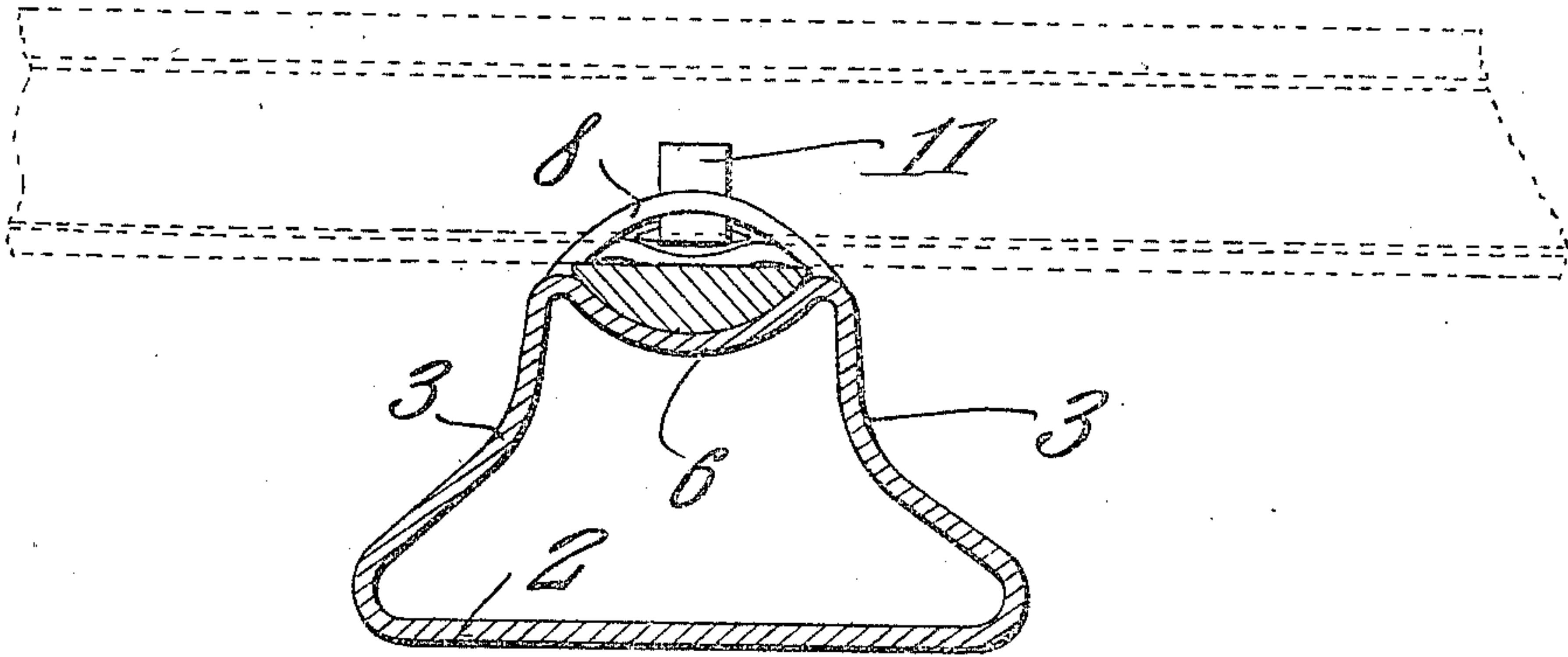


J. E. WEEMS.  
RAILROAD TIE.  
APPLICATION FILED MAY 12, 1909.

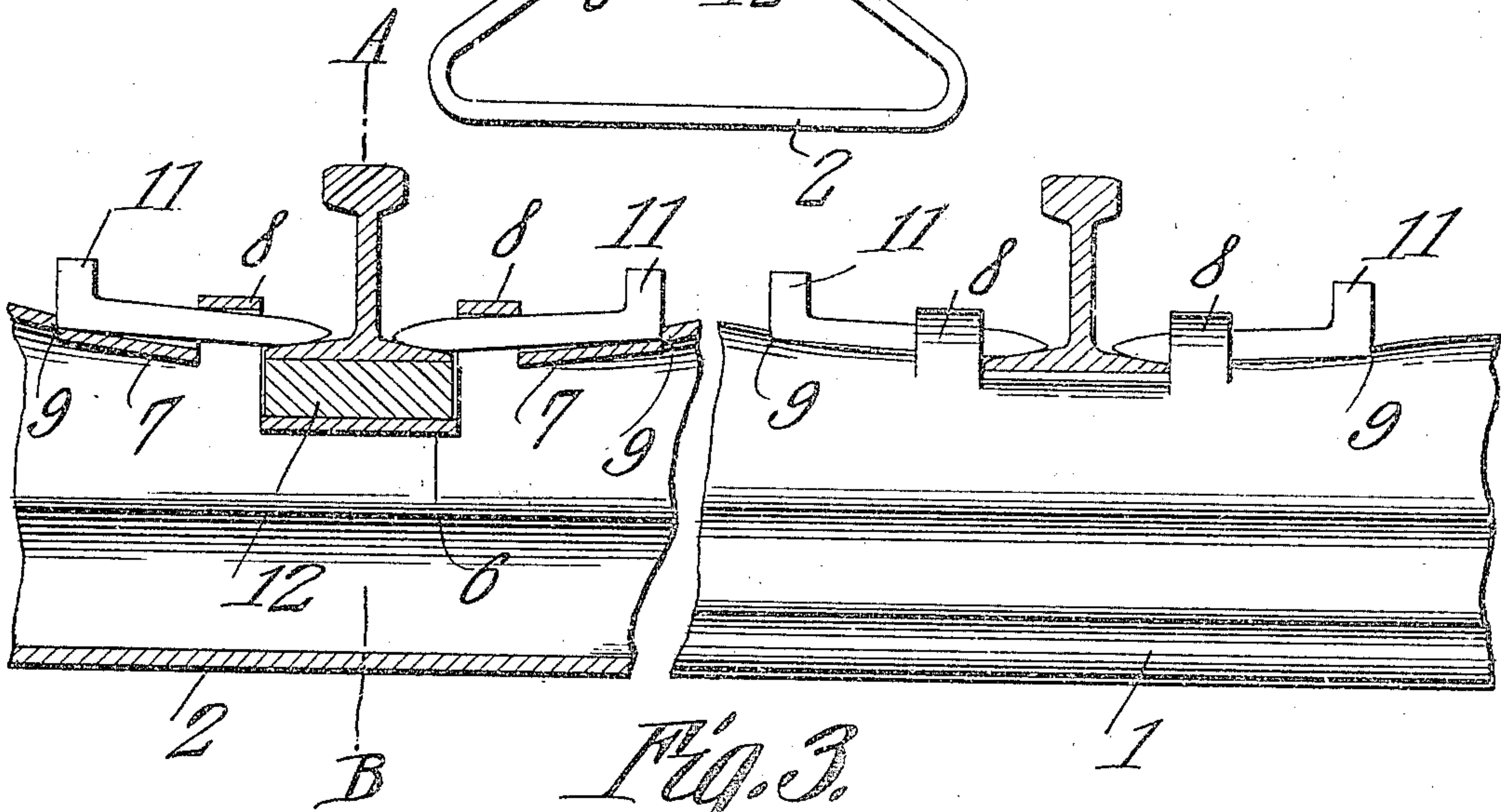
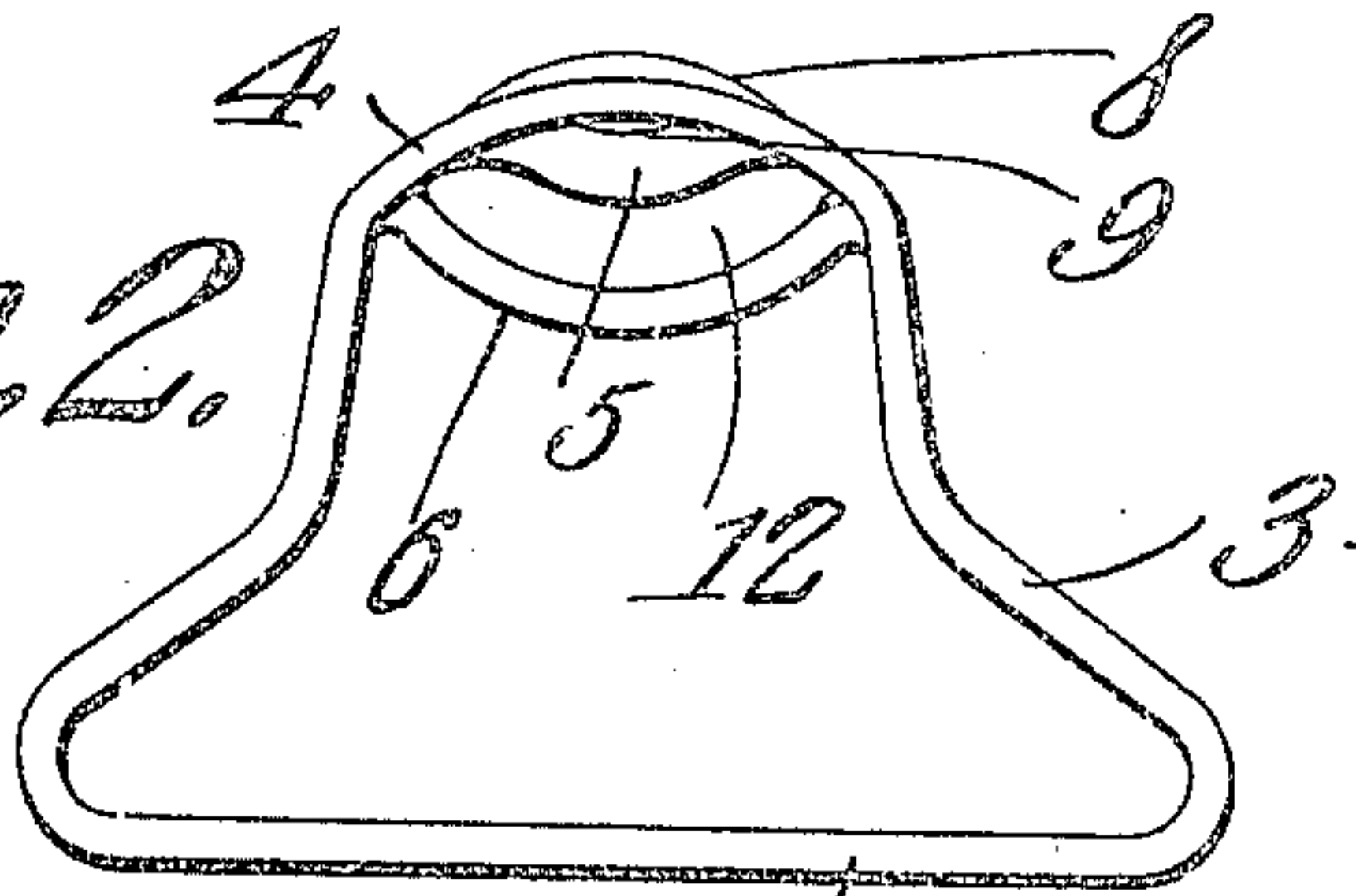
952,057.

Patented Mar. 15, 1910.

*Fig. 1.*



*Fig. 2.*



*Fig. 3.*

Witnesses

*E. J. Stewart*  
*Mason B. Lawton*

Inventor  
*J. E. Weems.*

By *C. A. Snow & Co.*  
Attorneys



# UNITED STATES PATENT OFFICE.

JONEY E. WEEMS, OF PERKINS, OKLAHOMA, ASSIGNOR OF ONE-HALF TO LOWELL O. MARTZ, OF PERKINS, OKLAHOMA.

## RAILROAD-TIE.

952,057.

Specification of Letters Patent. Patented Mar. 15, 1910.

Application filed May 12, 1909. Serial No. 495,421.

*To all whom it may concern:*

Be it known that I, JONEY E. WEEMS, a citizen of the United States, residing at Perkins, in the county of Payne and State of Oklahoma, have invented a new and useful Railroad-Tie, of which the following is a specification.

The objects of the invention are, generally, the provision in a merchantable form of a device of the class above described which shall be inexpensive to manufacture, facile in operation and devoid of complicated parts; specifically, the provision of a tie having braces adapted to space the rails at a fixed distance, rail-engaging locking keys being adapted to be inserted beneath the rail braces to hold the rails in position, the shape of the said rail braces being such, that, in case of any longitudinal movement in the rail, the locking keys will engage the rail more securely after such longitudinal movement; other and further objects being made manifest hereinafter as the description of the invention progresses.

The invention consists in the novel construction and arrangement of parts hereinafter described, delineated in the accompanying drawings and particularly pointed out in that portion of this instrument wherein patentable novelty is claimed for certain distinctive and peculiar features of the device, it being understood that within the scope of what hereinafter is thus claimed, divers changes in the form, proportions, size, and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

Similar numerals of reference are employed to denote corresponding parts throughout the several figures of the drawings.

In the accompanying drawings, Figure 1 shows my invention in transverse section on the line A—B of Fig. 3, Fig. 2 is an end elevation; and Fig. 3 is a side elevation, one end of the tie being broken away to better reveal the structure.

The tie proper denoted generally by the numeral 1 is hollow in construction. The bottom of the tie is flat as denoted by the numeral 2, the sides 3 rising in a reverse curve and uniting to form the top 4. Adjacent either end, the tie is depressed to form a seat 5 extending longitudinally of

the tie. The central portion 6 of the seat is depressed somewhat below the end portions 7 thereof, the bottom of the central portion 6 being disposed substantially parallel to the bottom 2 of the tie. The ends 7 of the seats 5 slant upward, so that their remote ends terminate at the level of the top 4 of the tie. The seat 5 throughout its entire length is transversely concaved as shown most clearly in Figs. 1 and 2. In fashioning the seat 5 a portion of the top 4 of the tie is left upstanding, to form transversely disposed convexed rail braces 8. These braces 8 which cross the seat 5 are so disposed as to engage the edges of the flange of a rail, and the distance between the pair of braces 8 at one end of the tie and the pair at the other end, represents the gage of the track. When therefore, the rails are disposed between the braces 8, and secured therein as hereinafter described, the track will at all times be and remain in accurate gage.

A cushion block 12 is provided preferably of wood, conforming on its lower face to the concavity of the central portion 6 of the seat, the top face of said cushion block being flat. This cushion block 12 is adapted to be mounted between the braces 8 in the central portion 6 of the seat and extends a short distance above the upper surface of the tie, to space the rails from contact with the said tie.

Locking keys 11 are provided, preferably wedge shaped and these locking keys are adapted to be oppositely inserted in the ends 7 of the seat 5, and to extend beneath the braces 8 projecting above the upper face of the cushion block 12 into contact with the flange of the rail. The ends 7 of the seat are provided with upstanding shoulders 9 adapted to receive the remote ends of the locking keys 11, to hold the adjacent ends thereof in position beneath the braces 8 and in contact with the flange of the rail.

As shown in Fig. 3, when the locking keys are driven into place, their adjacent ends will bear upon the flange of the rail, their remote ends will engage the tie, their intermediate portions being engaged by the braces 8, their adjacent ends being held free from contact with the ends 7 of the seat 5. By convexing the braces 8, any longitudinal movement of the rail will tend to draw the adjacent ends of the locking keys more closely downward upon the flange of the



rail, the concavity of the portion 7 of the seat permitting the locking keys to move transversely of the tie into the wedging relation hereinbefore pointed out.

5 In case of a longitudinal movement of the rail, not only do the locking keys 11 press downward more firmly upon the flange, but at the same time, the cushion block 12, owing to the contour of its lower face and  
10 the shape of the central portion 6 of the seat, will exert a wedging influence tending to force the flange of the rail upward against the locking keys 11.

It will thus be seen that by the foregoing device, I have provided a tie equipped with rail engaging means adapted to grip the rail with increasing efficiency as soon as any longitudinal movement in the rail is begun.

What is claimed is:—

20 1. A railroad tie having transverse, convexed braces arranged to engage both edges of a rail flange; locking keys arranged to be oppositely inserted beneath the braces to engage at their adjacent ends the flange of  
25 a rail, and at their remote ends to engage the tie; the tie being provided with upstanding shoulders arranged to engage the remote ends of the locking keys to hold the adjacent ends thereof in contact with the  
30 rail flange.

2. A railroad tie provided in its upper face with a longitudinally disposed, transversely concaved seat, and with a transversely disposed, convexed rail brace crossing  
35 said seat; a rail engaging locking key arranged to be inserted longitudinally in said seat beneath the rail brace, the seat being provided with a shoulder to limit the withdrawal of the key from beneath the  
40 brace.

3. A railroad tie provided in its upper face with a longitudinally disposed, transversely concaved arcuate seat, and with a transversely disposed convexed arcuate rail  
45 brace crossing said seat; a cushion block disposed in the seat upon one side of the brace and conforming to the concavity of the seat; and a locking key arranged to be mounted longitudinally in the seat upon the other  
50 side of the brace and to extend beneath and to engage said brace and project above the cushion block.

4. A railroad tie provided in its upper face with a longitudinally disposed, trans-

versely concaved seat, and with a trans- 55  
versely disposed convexed rail brace crossing said seat; a cushion block disposed in the seat upon one side of the brace and conforming to the concavity of the seat; and a locking  
60 key arranged to be mounted longitudinally in the seat upon the other side of the brace and to extend beneath said brace and project above the cushion block; the seat being provided with a shoulder to limit the  
65 withdrawal of the key from beneath the brace.

5. A railroad tie provided in its upper face with a longitudinally disposed, transversely concaved seat, and with transversely disposed, convexed rail braces crossing said  
70 seat and arranged to engage both edges of a rail flange; rail engaging locking keys arranged to be oppositely inserted in the seat beneath the braces, the seat being provided with shoulders to limit the withdrawal of  
75 the keys from beneath the braces.

6. A railroad tie provided in its upper face with a longitudinally disposed, transversely concaved arcuate seat, and with transversely disposed, convexed arcuate rail  
80 braces crossing said seat, and arranged to engage both edges of a rail flange; a cushion block disposed in the seat between the braces and conforming to the concavity of the seat; and rail engaging locking keys arranged to  
85 be inserted beneath and to engage the braces and to project terminally above the cushion block.

7. A railroad tie provided in its upper face with a longitudinally disposed, transversely concaved seat, and with transversely disposed, convexed rail braces crossing said  
90 seat and arranged to engage both edges of a rail flange; a cushion block disposed in the seat between the braces and conforming to the concavity of the seat; locking keys arranged to be oppositely inserted beneath the  
95 braces and to project above the cushion block; the seat being provided with shoulders arranged to limit the withdrawal of the  
100 keys from beneath the braces.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JONEY E. WEEMS.

Witnesses:

L. J. STARK,  
JOHN BERG.