

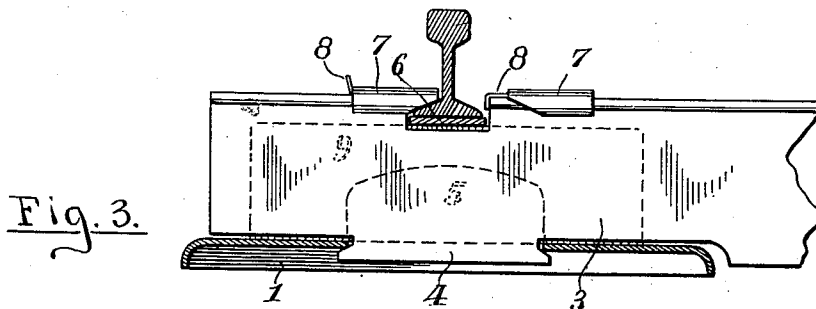
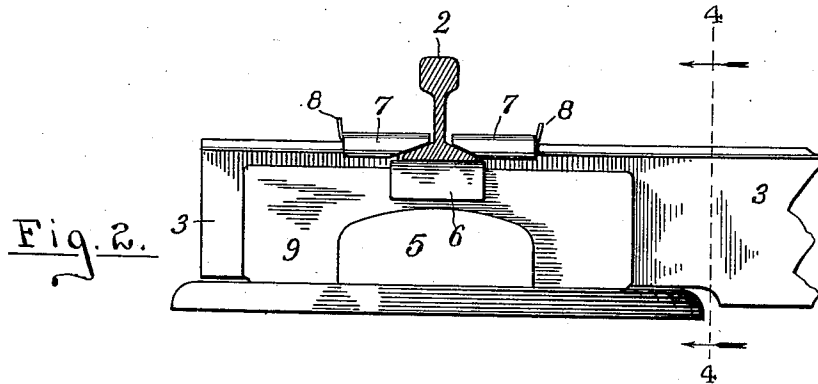
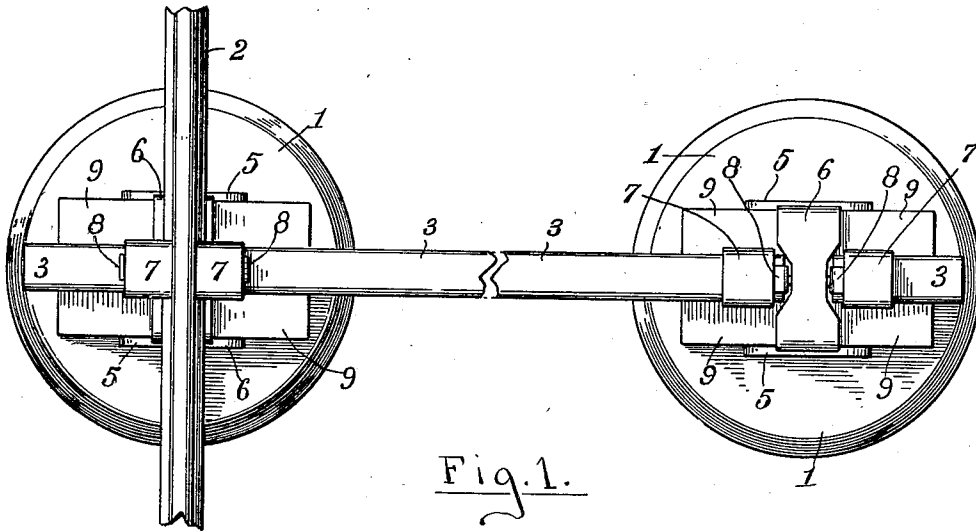
G. T. APPLEYARD & A. M. ROBSON.
RAILWAY TIE.

APPLICATION FILED JULY 6, 1911.

1,007,660.

Patented Nov. 7, 1911.

2 SHEETS-SHEET 1.



Witnesses

Harold O. Van Antwerp
Anna De Windt

Inventor
George T. Appleyard
Albert M. Robson
By *Luther V. Moulton*
Attorney

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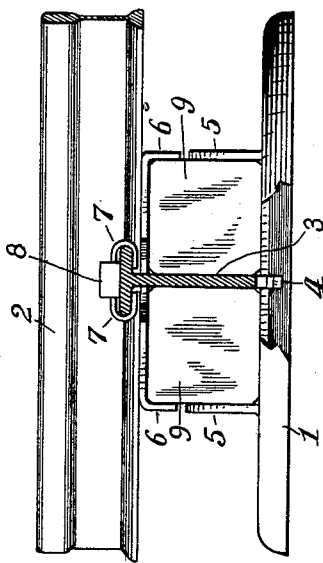


Fig. 4.

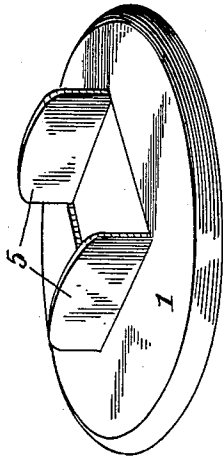


Fig. 6.

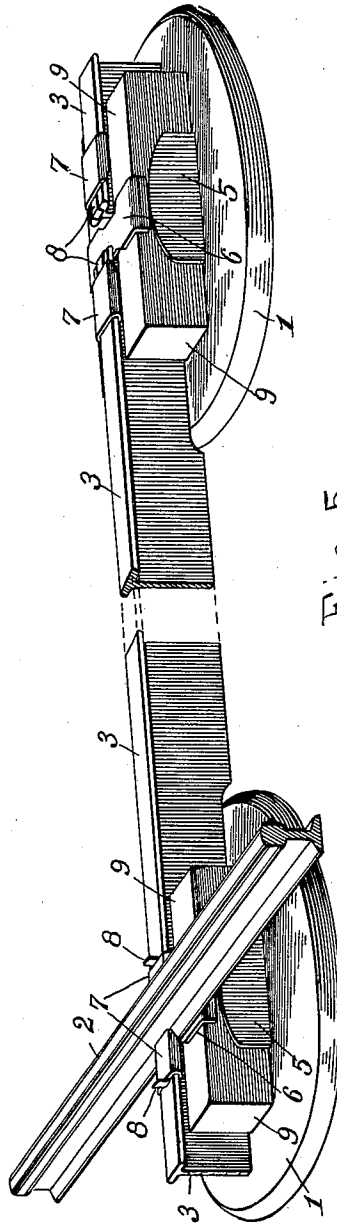


Fig. 5.

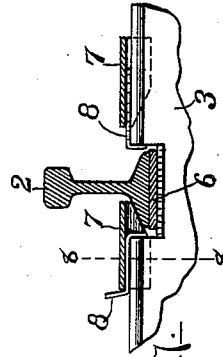


Fig. 7.

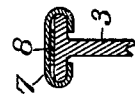


Fig. 8.

Witnesses
Harold O. Van Antwerp
Anna De Windt

Inventor
George T. Appleyard
Albert M. Robson
By Luther V. Moulton
Attorney

UNITED STATES PATENT OFFICE.

GEORGE T. APLEYARD AND ALBERT M. ROBSON, OF GRAND RAPIDS, MICHIGAN.

RAILWAY-TIE.

1,007,660.

Specification of Letters Patent.

Patented Nov. 7, 1911.

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To all whom it may concern:

Be it known that we, GEORGE T. APLEYARD and ALBERT M. ROBSON, citizens of the United States of America, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Railway-Ties; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to improvements in metallic railway ties and its object is to provide a tie having fastenings that are inexpensive and secure; to provide such fastenings that are cheaply made and require no bolts or rivets, both of which are objectionable; to provide the device with improved cushions for taking up the shock of passing trains and to provide the same with various new and useful features hereinafter more fully described and particularly pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of a device embodying our invention; Fig. 2 an enlarged detail in side elevation of one end of the same; Fig. 3 the same with a portion of the pot broken away and one of the fastenings slid back from the rail; Fig. 4 an enlarged elevation at right angles to Fig. 2 with portions broken away; Fig. 5 a perspective of the device complete, with a rail secured in one end of the same; Fig. 6 a perspective of the pot portion; Fig. 7 a detail in vertical section through the fastening means; and Fig. 8 a detail in vertical section on the line 8—8 of Fig. 7.

Like numbers refer to like parts in all of the figures.

1 represents a pot sleeper preferably made of sheet metal, circular in outline, with downwardly turned margins and a flat top having a central rectangular opening, the sheet metal removed therefrom being turned upward at opposite sides of the opening to form vertical parallel walls 5, centrally located between which is the end of a tie bar made preferably of T-bar with the web arranged vertically and the head upward, the bar being recessed in the edge of the web near the ends to receive the pot and having

a portion between the recesses forming a key 4 which extends within the opening of the pot and beneath the opposite edges of said opening to lock the pot to the tie bar. This key is inserted by turning the T-bar diagonally across the opening and then turning it parallel with the walls 5. To hold it parallel with and centrally locate this bar between the walls 5 and to provide cushions to receive the shock of passing trains blocks 9 extend nearly across the top of the pot and spanning the opening therein are supported by the pot. These blocks are preferably square in cross section whereby when worn they may be turned with their several sides uppermost, as occasion may require. A wear plate 6 extends across the top of the blocks beneath the rail 2 and has its ends turned downward to embrace the blocks. The upper part of the tie bar is recessed to receive this plate and the rail and is cut deep enough to afford clearance between the plate 6, and the web of the bar. When the rail is in place upon the plate 6 the base of the rail is partially below the top of the tie bar and affords oppositely inclined planes on its upper surface which are engaged by slides 7 mounted on the head of the tie bar, slidable thereon and having the ends adjacent the rail inclined to fit upon the base of the same. They thus serve to clamp the rail and when driven toward the web of the rail serve as wedges to force the same down securely in place. To lock these slides in place a bendable locking strip of thin sheet metal extends between the slide and the top of the tie bar with the end next the rail turned downward into the recess to prevent the strip from moving outward and the outer end of the same projects beyond the slide 7 when the latter is engaged with the rail and by forcing a chisel shaped instrument under the said outer end the same can be bent upward and toward the rail which operation forces the slide closely upon the base of the rail and at the same time locks it in place. Should these slides become slightly loosened by passing trains the outer end of the locking plate can be struck with a hammer and further bent toward the rail, thus easily and quickly tightening the slide.

It will be noted that the entire structure is devoid of any bolts or rivets and the rail

fastenings are well secured, easily tightened, and can also be readily removed by hammering the outer end of the locking strip and moving the slide by a lever being applied to its end next the rail and fulcrumed on the head of the rail. It will also be noted that the cushion blocks and the recess in the tie bar are of such proportions that the pot and rail are both spaced apart from the tie bar and thus the blocks support the entire load of passing trains and afford suitable wood cushions which are found to be quite useful in this class of structure, avoiding the severe and damaging shocks upon both the tie and rolling stock where there is contact of metals in the tie construction. It will also be noted that the cushion blocks can each be driven out endwise, turned and replaced, or another inserted instead without disturbing any other part of the structure, and that they serve to wedge and key the whole of the various other parts in place.

What we claim is:—

1. A railway tie, comprising a pot sleeper having a central opening, parallel vertical walls at each side of the said opening, a T-shaped coupling bar, a key member on the web of the bar to enter said opening, cushion blocks between the T-bar and the said walls and means for securing a rail to the T-bar with its base resting upon the blocks.

2. A railway tie, comprising a pot sleeper having a central opening, parallel vertical walls at each side of the opening, a T-shaped coupling bar recessed in the edge of the web to receive the sleeper and having a key member between the recesses to enter the opening in the sleeper, said coupling bar also being recessed at the top to receive a railway rail, cushion blocks at each side of the coupling bar and between said walls, a wear plate in the upper recess of the coupling bar and resting on said blocks and means for securing the rail in said upper recess with its base resting on the wear plate.

3. A railway tie, comprising a pot sleeper having parallel vertical walls, cushion blocks between said walls, a T-shaped coupling bar having its web vertically disposed between said blocks and provided with a recess in its upper side to receive a railway rail and permit the same to rest on the blocks, slides on the head of the bar adapted to engage the upper side of the base of the rail and means for securing the slides in place.

4. A railway tie, comprising a pot sleeper, cushion blocks supported thereon, a T-shaped coupling bar with its web between the blocks and having a recess in its upper side to receive a railway rail and permit the same to rest on the blocks, a wear plate spanning the blocks and turned downward at its ends to embrace the same, slides on

the head of the coupling bar having inclined ends to engage the base of the rail and means for securing the slides in engagement with the rail.

5. A railway tie, comprising a pot sleeper of sheet metal having its circumference turned downward and also having a central opening, parallel vertical walls formed of metal removed to form said opening, cushion blocks between said walls, a T-shaped coupling bar with its web inserted between said blocks and having a recess extending through the head portion to receive a railway rail and permit the same to rest upon the blocks, a wear plate extending through said recess and turned down at the ends to embrace the blocks, slides on the head of the coupling bar having inclined ends to engage the base of the rail and means for securing the slides in engagement with the rail.

6. A railway tie, comprising a T-shaped coupling bar having its web portion extending vertically downward, and the head portion recessed to receive a rail, cushion blocks at each side of the web portion, means for supporting said blocks, a wear plate in said recess between the rail and the blocks, slides on the head of the bar to engage the base of the rail and locking strips between the slides and said head having one end turned downward within the recess and the other end turned upward to lock the slides.

7. A railway tie, comprising a T-shaped coupling bar having a recess in its head portion to receive a railway rail, a slide on said head portion adapted to project into said recess and engage the upper side of the base of the rail and a locking strip between the slide and said head having its inner end turned downward into the recess and its outer end turned upward to engage the end of the slide and hold the same in place.

8. A railway tie, comprising a pot sleeper having a central opening and upwardly extended parallel walls at opposite sides of the opening, cushion blocks between said walls, a T-shaped tie bar having its web between said blocks and extending above the same and also having a recess in the head portion to receive a railway rail and permit the same to rest upon the blocks, slides on the head of the T-bar having inclined ends to project into the recess and engage the base of the rail and locking strips between the slides and said head each having its inner end turned downward into the recess and its outer end turned upward to engage the end of the respective slide.

9. A railway tie, comprising a sleeper having upwardly projecting parallel walls spaced apart, a T-shaped coupling bar having a recess in its head portion to receive a

5 rail, blocks between the bar and walls, a wear plate resting on the blocks and supporting the rail and means for securing the rail in said recess, said blocks being separately removable, endwise, and replaceable in like manner without disturbing any other part of the structure.

In testimony whereof we affix our signatures in presence of two witnesses.

GEORGE T. APPLEYARD.

ALBERT M. ROBSON.

Witnesses:

HAROLD O. VAN ANTWERP,
LUTHER V. MOULTON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."