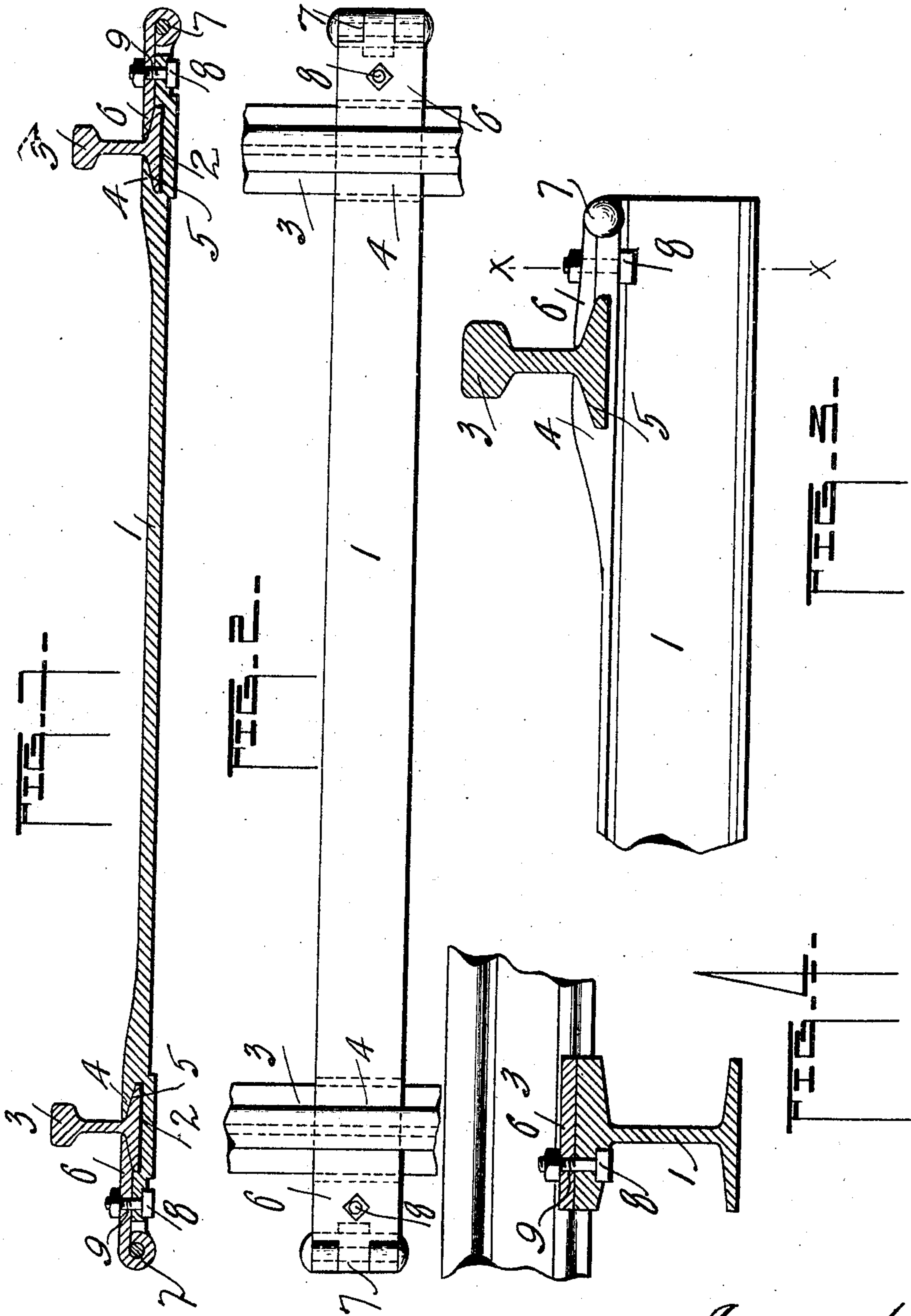


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PATENTED NOV. 7, 1905.

J. WHITEHEAD.
RAILWAY TIE.

APPLICATION FILED DEC. 12, 1904.



Witnesses:
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UNITED STATES PATENT OFFICE.

JOSEPH WHITEHEAD, OF FARMINGTON, ILLINOIS.

RAILWAY-TIE.

No. 804,078.

Specification of Letters Patent.

Patented Nov. 7, 1905.

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To all whom it may concern:

Be it known that I, JOSEPH WHITEHEAD, a citizen of the United States, residing at Farmington, in the county of Fulton and State of Illinois, have invented certain new and useful Improvements in Railway-Ties; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention has reference to improvements in railway-ties, having for its object a tie constructed of steel or other suitable metal and means attached to said tie for firmly securing rails thereto.

A further object of the invention is a metal tie provided with a recess-bearing near each end thereof to receive the rail and insure the placing of the rails always equidistant to each other, the tie being further provided with portions which overlie a portion of the said recesses and to hinged plates pivoted to the tie at or near the opposite ends thereof adapted to engage one side of the web and base of a rail to fixedly attach the same to the tie.

The invention has for its further object to provide a railway-tie that shall have great durability and that shall render unnecessary gage measurements in laying the rails and whereby all danger of the spreading of the rails is avoided.

The above objects are accomplished by the novel construction of railway-tie hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the claims at the end of the specification.

Figure 1 is a longitudinal elevation in section of a railway-tie embodying my invention and showing in cross-section rails attached thereto. Fig. 2 is a plan view of the tie shown in Fig. 1 with the rails in position secured thereto. Fig. 3 is a longitudinal elevation of a portion of a modified form of tie. Fig. 4 is a cross-section through Fig. 3 on the line X X.

In carrying out my invention, as will become apparent from the figures and description thereof, it is necessary to modify the structure of the railway-tie when using the same both as a tie for mine-railways and surface railways. In the former the tie may be light and somewhat after the design seen in

Figs. 1 and 2, while for surface railways, where the rails are extra heavy, the tie must be constructed in proportion. One form of the latter is seen in Figs. 3 and 4.

In Figs. 1 and 2 the tie is shown as a substantially flat body of the desired thickness and width, and the tie near each end is provided with a depressed body portion or recess, as 2, serving as a bearing to receive the rail, which is indicated as 3. The body of the tie adjacent to the inner wall of the depressed or recessed portions 2 is provided with the web or lip 4, which extends upwardly and forwardly toward the end of the tie, stopping short of the center of the said recess 2 and overlying the same to form a chamber or groove 5. To the outer ends of the tie is hinged at 7 a plate 6, which is adapted to have a swinging connection with the tie. The said plate when in position, closed down on the tie, overlies a portion of the recess 2 and forms a groove or channel similar to that indicated, as at 5.

In attaching a rail or a pair of rails to the tie the same is seated in the recess or depressed portion 2, the inner flanges of the base being seated in the groove or channel 5, formed by the overlying lips or webs 4, which have lower beveled faces to conform to the bevel-faces of the base-flanges of the rail, with the ends of the lips engaging or abutting against one side of the web of the rail. The next step in the operation of securing the rails to the tie is to close the plate 6 down on the tie, with the inner end thereof engaging the base-flange of the tie in a manner similar to the lips 4 upon the opposite side of the rail, the lower inner portion of the said plate conforming to the taper of the base-flange of the rail. It is intended that the length of the plates from their pivot to their free ends shall be slightly longer than a radius extending from the center of its pivot to the base of the rail-web or where the same merges into the base-flange of the rail. By this construction in bringing the plate 6 down the free end will wedge against the web of the rail and firmly lock the rail in the recess of the tie between the engaging portions of the lips 4 and the plates 6. However, I have provided for securely locking the plates 6 to the body of the tie after closing the same down upon the base-flange of the rail, if it be

so desired, by employing a bolt 8, having its lower squared head countersunk into the tie and the same passed up through a perforation 9 in the plate 6, and to the upper end of the bolt secure a nut for locking the parts firmly together.

In Figs. 3 and 4 for a flat plate I substitute an I-beam, which serves the same function as the tie-plate 1 in Figs. 1 and 2, but is much stronger and serves the purpose for a tie for surface railway-ties, the features enumerated as being used for securing the rails to the plate in Fig. 1 being used equally as well on the I-beam, as has been shown.

By the use of a railway-tie such as I have described the necessity for gage measurements in laying a track is entirely obviated, as the recesses or depressions 2 are placed with exactness at predetermined distances apart, and the lips 4 and plates 6, overlapping the base-flanges of the rails, properly position and retain the rails without the necessity for gage measurements, also obviating the use of braces, chairs, splices, or spikes in the laying of the rails.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. A railway-tie formed with recesses to receive the rails, and plates pivotally connected to the ends of the tie, said plates being arranged for wedging engagement with the webs of the rails and means for securing the said plates in said wedging position.

2. A railway cross-tie having recesses in the body thereof at or near its ends, rails seated in said recesses, lips attached to the said tie and adapted to overlie and engage the inner base-flange of the rails, and plates pivoted to the said tie upon the outside of the rails, their free ends having a wedging engagement with the webs of the rails and overlying and engaging the outer base-flanges thereof, substantially as specified.

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

JOSEPH WHITEHEAD.

Witnesses:

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