

No. 748,307.

PATENTED DEC. 29, 1903.

C. H. QUIMBY.  
METAL AND CONCRETE RAILWAY TIE.

APPLICATION FILED MAY 29, 1903.

NO MODEL.

Fig. 1.

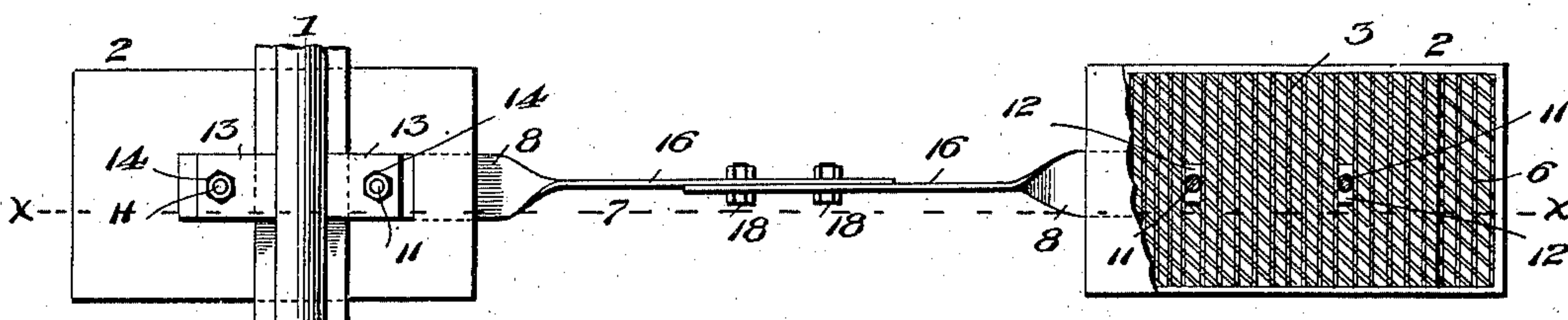


Fig. 2.

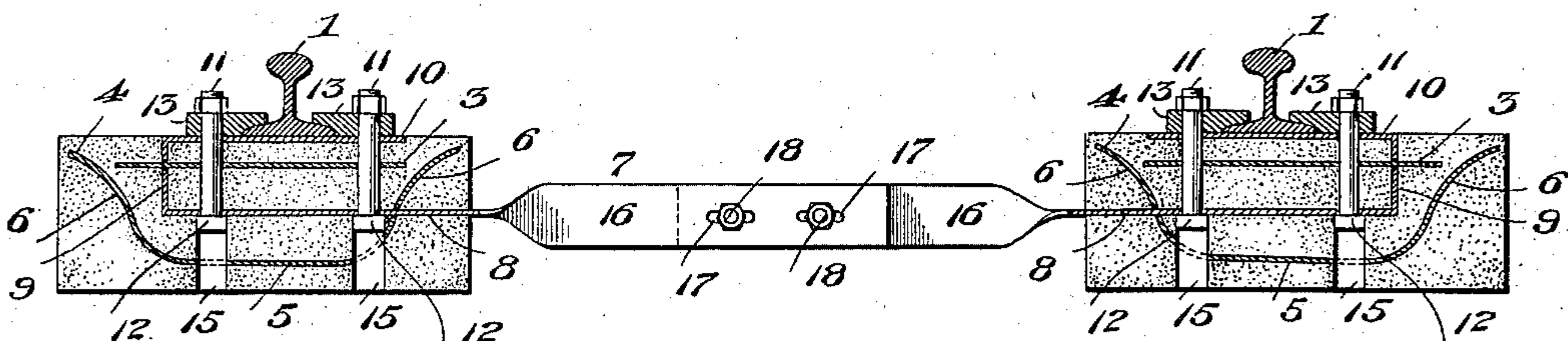
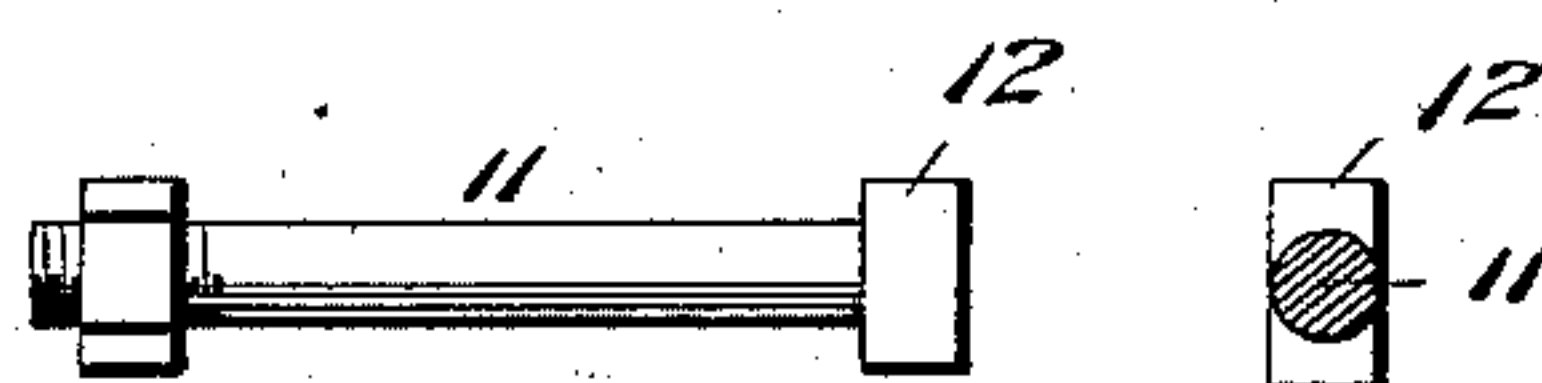


Fig. 3.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

CHARLES H. QUIMBY, OF PHILADELPHIA, PENNSYLVANIA.

## METAL AND CONCRETE RAILWAY-TIE.

SPECIFICATION forming part of Letters Patent No. 748,307, dated December 29, 1903.

Application filed May 29, 1903. Serial No. 159,255. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES H. QUIMBY, a citizen of the United States, residing at Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented certain new and useful Improvements in Metal and Concrete Railway-Ties, of which the following is a specification.

This invention relates to metal and concrete railway-ties.

My object is to provide a railway-tie of the class set forth which will be easy to manufacture and install, of light weight, simple and durable in construction, possesses great strength and capacity to satisfactorily withstand the strains and pressures incident to traffic, and in which provision is made for adjustment to the gage on curves and at other places.

Having the foregoing objects in view, the invention consists of certain improved and novel features set forth in detail hereinafter and embodied in the appended claims.

In the accompanying drawings, Figure 1 is a plan view, one of the rail-blocks being broken away to show the expanded metal embedded therein; Fig. 2, a section on line *xx* of Fig. 1, and Fig. 3 details of one of the fastening-bolts.

The rails are shown at 1.

The tie has concrete blocks 2, which need be only of sufficient size to properly support the rails. Embedded in each block 2 and extending horizontally just below the rail is a rectangular sheet of expanded metal 3, and below this sheet 3 and embedded in the block is another sheet of expanded metal 4, having a horizontal portion 5 disposed just above the base of the block and upwardly-extending diverging compound curved wings 6. Both sheets of expanded metal are of substantially the width of the block 2 considered lengthwise of the track; but I wish it understood that they could be made narrower, if desired. The upper sheet 3 and the part 5 of the lower sheet 4 bind the concrete together and resist breaking or separation thereof laterally, and the wings 6 prevent breaking or separation of the concrete in a vertical direction. The various strains and pressures occasioned by the train load are thus satisfactorily prevented from rupturing the concrete blocks 2.

The blocks 2 are joined together by a brace or tie 7, composed of twin flat bars, each having a horizontal portion 8 embedded in the concrete block between the sheets 3 and 4, a vertical portion 9, and a rebent flat horizontal portion 10, located on top of the block 2 and constituting a seat or chair for the rail 1.

Bolts 11, having laterally-elongated heads 12, extend upwardly through the blocks 2 and parts 8 and are provided with clips 13 to engage the rail-base and nuts 14 to clamp said clips.

The shanks of the bolts pass through round openings in the blocks 2 and portions 8, while the heads 12 lie against the portions 8 and are located in openings 15, which are of substantially the same size and shape as the heads 12 and prevent turning of the bolts. The bolts are adapted to be removed from the blocks by drawing them down through the openings, and the openings provide a convenient exit for any water which might collect.

The bars 7 are twisted to provide flat vertical portions 16, having slots 17, through which pass clamping-bolts 18. Provision is thus made for any needed adjustment to suit the gage—as, for instance, on curves—while this connection also permits detachment, so that the tie can be knocked down into convenient shape for transportation.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a railway-tie, the combination with rail-blocks, of a tie or brace connecting said blocks and having end portions extending into said blocks, thence upwardly in the blocks, and thence laterally below the rail.

2. In a railway-tie, the combination with rail-blocks, of a tie or brace connecting said blocks and having portions extending into said blocks, thence upwardly in the blocks, and thence rebent backwardly on top of the blocks and constituting seats or chairs for the rails.

3. In a railway-tie, the combination with rail-blocks, of a tie or brace connecting the rail-blocks and extending thereinto, and rail-fastenings extending upwardly through the blocks and through the parts of the tie or brace extending into said blocks, said fastenings engaging the opposite sides of the rail.



4. In a railway-tie, the combination with rail-blocks, of a tie or brace connecting the rail-blocks and extending thereinto, and rail-fastenings extending upwardly through the blocks and through the parts of the tie or brace extending into said blocks, said fastenings having heads bearing against the under side of the parts of the tie or brace which extend into the blocks.
- 10 5. In a railway-tie, the combination with rail-blocks, of a tie or brace connecting said blocks and having portions entering the blocks, rail-fastenings extending up through the blocks and through the portions of the brace which enter the blocks, said rail-fastenings having heads bearing against the said portions of the brace and being removably located in openings in the blocks which prevent turning of said rail-fastenings.
- 15 6. In a railway-tie, the combination with rail-blocks, of a brace or tie connecting said blocks which has flat horizontal portions connected to the blocks and flat vertical portions between the blocks, and an adjustable connection for the flat vertical portions of the tie or brace, whereby the blocks can be adjusted toward and away from each other.
- 25 7. In a railway-tie, a rail-block having a substantially horizontal perforated strengthening and binding strip or sheet therein.
- 30 8. In a railway-tie, a rail-block having upper and lower substantially horizontal perforated strengthening or binding strips or sheets therein.
9. In a railway-tie, a rail-block having a strengthening or binding sheet or strip therein which has a substantially horizontal portion, and upwardly - extending diverging wings at its ends, said wings being disposed on opposite sides of the rail.
- 35 40 10. In a railway-tie, a rail-block having an upper substantially horizontal binding or strengthening strip therein, and a lower strengthening or binding strip embedded in the block, said lower binding-strip having a substantially horizontal portion and wings extending in a general upward direction.
- 45 In testimony whereof I hereunto affix my signature in presence of two witnesses.
- CHARLES H. QUIMBY.
- Witnesses:  
CHARLES S. WAGONER,  
H. G. HART.