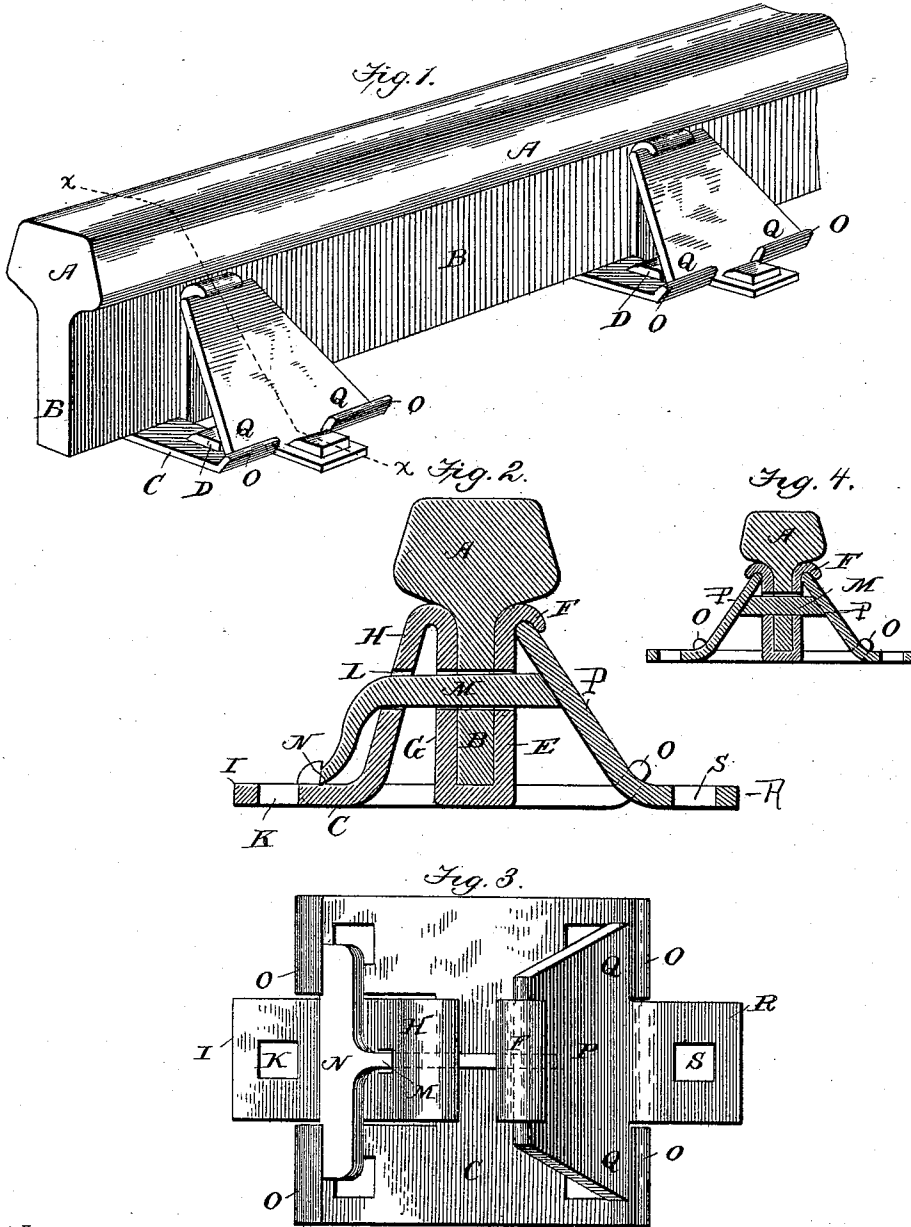


(No Model.)

W. LATIMER.
RAILROAD.

No. 484,027.

Patented Oct. 11, 1892.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM LATIMER, OF WILMINGTON, NORTH CAROLINA.

RAILROAD.

SPECIFICATION forming part of Letters Patent No. 484,027, dated October 11, 1892.

Application filed November 27, 1891. Serial No. 413,249. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM LATIMER, a citizen of the United States, residing at Wilmington, in the county of New Hanover and State of North Carolina, have invented certain new and useful Improvements in Railroads; and I 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.

My invention relates to certain new and useful improvements in the construction of railroads.

It has for its object to dispense with the bottom flange of the rail and to thus lighten the same and reduce its cost; and my invention also has for its objects to protect the rails against spreading laterally and to also avoid the possibility of the securing-bolts moving out of the ties; and with these ends in view my invention consists in the peculiarities of construction and arrangement hereinafter described in detail and specifically claimed.

In order that those skilled in the art to which my invention pertains may fully understand the same, I will proceed to describe its construction and arrangement, referring by letters to the accompanying drawings, in which—

Figure 1 is a perspective view of a section of road embodying my invention. Fig. 2 is cross-section taken at the line *x x*, Fig. 1. Fig. 3 is a detailed plan view of one of the rail-supports or chairs; and Fig. 4 is a view similar to Fig. 2, showing a modification.

Similar letters of reference indicate like parts in the several figures.

A represents the rail formed with the ordinary flange at its upper edge for the travel of the car-wheels, said flange converging into and terminating in a vertical web B, the ordinary lower or supporting flange being dispensed with entirely.

C is a wrought-iron chair secured to the tie at each corner of the chair by suitable spikes D. The rail-support of the chair is provided by turning up a vertical web E, the upper end of which is curved or turned outwardly, as shown at F. A similar parallel web G is also

turned upward and extends to the same height as the web E, and then is curved and turned obliquely downward, as shown at H, and then horizontally, as shown at I, and provided with a spike-hole K, the distance between the two vertical webs E and G being just sufficient to accommodate the web B of the rail A, and the altitude of the said webs E and G of the chair being such that when the base of the rail-web B finds its seat on the bottom plate of the chair the upper curved portions of the chair-webs E and G will be seated under the flange of the rail A and form a secondary support therefor. The supporting-webs of the chair are provided with horizontal openings L to receive a suitable rail-lock for securing the rail in place, horizontal holes in the web of the rail being provided at points coincident with the holes L in the chair. These openings in the chair and web of the rail are so proportioned with reference to the securing device hereinafter described as to provide for the ordinary contraction and expansion occurring under changes of temperature.

M is the device for securing the rail in place, which consists of a horizontal stem adapted to pass through the holes or openings in the chair and the web of the rail and having its outer end turned down obliquely and resting against the upturned edge or nose O of the base of the chair. It will be observed that this locking device not only secures the rail in its proper relation with the chair, but that the lateral extension N of said locking device, passing obliquely, as it does, over the securing-spikes D, prevents the latter from moving upward, while the contact between the lateral extension N of the locking device and the noses O on the base-plate of the chair constitutes a brace against any lateral thrust of the rail.

The locking device M is secured in position by an arrow-shaped plate P, the head of which rests under the curved upper end F of the vertical web E of the chair. The heels Q of said arrow plate interlock with the upturned noses O of the chair-plate, the tang or extension R of said arrow plate being bent outwardly in a line parallel and coincident with the upper surface of the tie and secured

thereto by a suitable spike at S. The heels Q of the arrow plate, it will be seen, lie over the securing-bolts D in the same manner that the extension laterally of the locking device M does, and consequently the four main securing-spikes of the chair are all held in proper position and against upward movement the locking arrow plate P also securely locks device M in place, as most clearly seen at Fig. 2, and serves as a brace against the lateral thrust of the rail.

From the construction and arrangement thus described it will be seen that the four main securing-spikes are so covered and held in position that there is a necessary interassociation between them in their holding capacity, inasmuch as none of the spikes are permitted to rise independently of each other, and being driven into the tie in substantial parallelism they form braces for each other in such manner that the chair must lift bodily in a vertical line in order to become disconnected from the tie when the parts are all in proper relative position, while at the same time said securing bolts or spikes may be readily removed when desired by first removing the locking device and arrow-shaped plate.

While I have shown the chair with one of its supporting-webs turned down obliquely and extended laterally, as shown at H I, it will be understood that a web similar to that illustrated at E F may be substituted therefor and a second arrow-shaped locking-plate, like P, used in lieu of the laterally-extended locking device, in which case the locking device would consist of a simple short bar with both ends beveled so that it would be con-

finied between the two arrow-shaped plates, as shown on a reduced scale at Fig. 4.

From the construction shown and described it will be seen that the cost and weight of the rail may be very materially lessened and that it is firmly supported not only vertically in each chair, but that the rail is braced on each side by the locking device M and arrow plate P or two arrow plates P, as the case may be. The inclination or obliquity of the supporting devices, being substantially at an angle of forty-five degrees, renders the braces very strong and effective without the necessity of making the same excessively heavy.

Having thus described the advantages and construction of my improvements in railroads, what I desire to secure by Letters Patent is—

1. In combination with the rail A, formed with a vertical web B, the chair C, formed with parallel vertical supports E G, adapted to embrace the under side of the flange of the rail, the locking device M, and arrow plate P, engaging with the noses O of the chair C, substantially as and for the purpose set forth.

2. The chair C, provided with suitable spike-holes for securing the same to the tie and formed with suitable vertical supporting-webs E G, and upturned noses O to receive and interlock with the locking device M and arrow plate P, substantially as and for the purpose set forth.

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

WILLIAM LATIMER.

Witnesses:

HENRY SAVAGE,
JAMES E. HALL.