

# H. Baines.

## Railroad Track.

N<sup>o</sup> 53,240.

Patented Mar. 13, 1866.

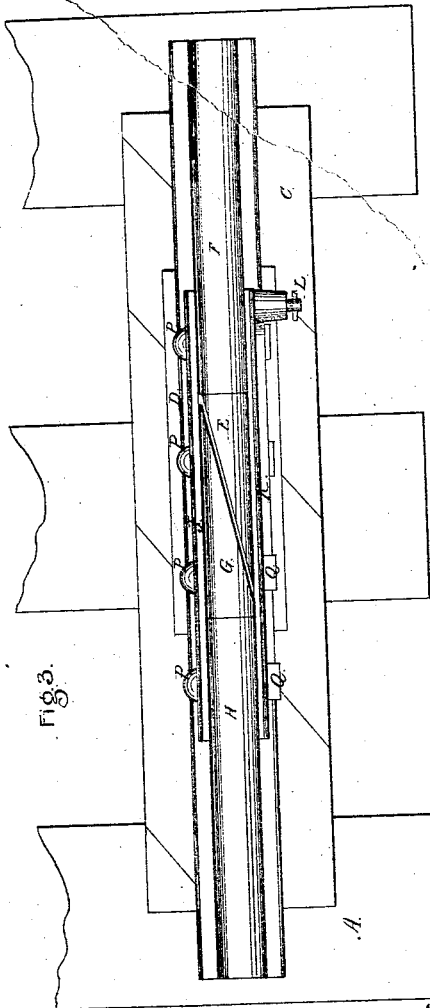


Fig. 3.

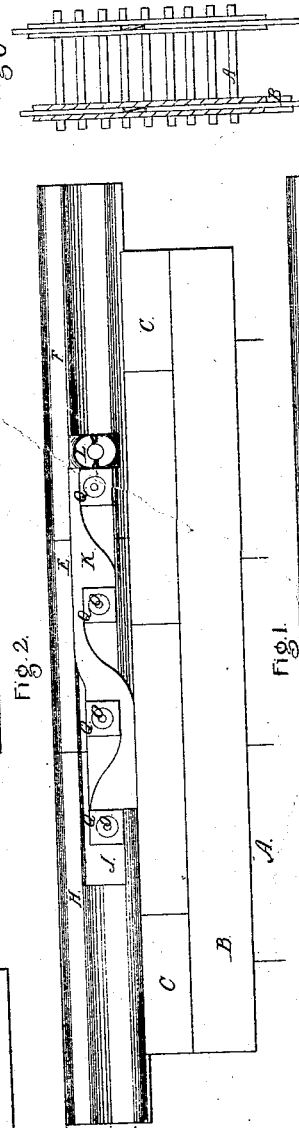


Fig. 2.

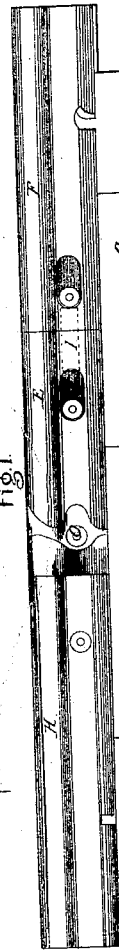


Fig. 1.

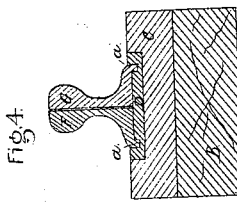


Fig. 4.

Section of Rails on Chair

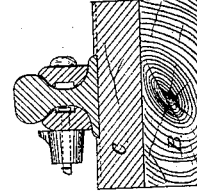
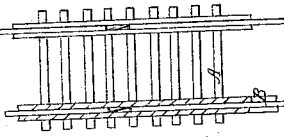


Fig. 5.

Section of Track with Fish Plates & Lock Latch.

A

Fig. 6.



Witnesses:

*Alfred H. Baines*

Inventor:

*Hugh Baines*

# UNITED STATES PATENT OFFICE.

HUGH BAINES, OF MANCHESTER, ENGLAND.

## IMPROVED RAILROAD-TRACK.

Specification forming part of Letters Patent No. 53,240, dated March 13, 1866.

*To all whom it may concern:*

Be it known that I, HUGH BAINES, of Manchester, England, but now temporarily residing in the city of Montreal, Canada, have invented new and useful Improvements in Railroad-Tracks; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an elevation of one track of a railroad, showing what I term the "expansion-miters;" Fig. 2, a similar view to Fig. 1, showing the "fish-plate" and "lock-latch," so termed; Fig. 3, a plan or top view of both Figs. 1 and 2, showing the connection of rails with the cross-ties of the railroad; Fig. 4, a transverse vertical section of "expansion" and "contraction" miters, so termed, together with the railroad-chair and cross and longitudinal ties; Fig. 5, a transverse vertical section of rail through fish-plates and lock-latch; Fig. 6, a ground plan, showing both sides of railway-track with open miters for expansion.

A A in the drawings represent the cross-ties of the railroad, placed at suitable distances apart, on which, extending from one to the other, rest the longitudinal ties B B, having along and upon their upper surfaces a series of diagonal plates, C C, forming the bed for the rails F and H, between the contiguous ends of which are placed the half-miters E and G, one, E, in contact with end of rail F, and the other, G, in contact with end of rail H, the two forming, when placed side by side with each other, a continuation of the two rails, and are of uniform shape therewith in cross-section, these miters and ends of rails contiguous therewith fitting by their flanges *a a* in the longitudinal grooves of the chair-plate D, inserted in the diagonals C of the longitudinal ties B, and made flush, or nearly so, therewith.

J J are "fish-plates," which I so term, placed one upon each side of the rail, overlapping the joints of the miters E and G with the rails F and H, bolts O, having heads P at one end and loosely passing through the plates and the miters or rails F and H in contact therewith,

being used for tightly binding the whole together and to the rail by screwing up the nuts Q upon one of the bolts, which, when set, are then held by interlocking the latch-bar K, hung upon a fulcrum-pin of one of the fish-plates, with them, as shown in Fig. 2.

I is a key connecting half-miter C to rail H for drawing back the half-miter G in contracting.

The half-miter G is to be made in various lengths to allow for the expansion and contraction in the continuous rail, and to bring the entire expansion or contraction into one place at each quarter of a mile, more or less, instead of at every rail length, as hitherto.

It is clearly apparent from the above description that when half-miter E and rail F are firmly spiked to diagonals C, longitudinal and transverse ties, and placed immediately adjoining switches, crossings, and at every quarter of a mile, more or less, half-miter G and rail H, when connected with close joints, fish-plates, and lock-latches, can only expand into and contract out of half-miter E.

It may be here remarked that all the nuts of fish-plate bolts at every rail length I intend to secure with a lock-latch, K, as shown over miters in the drawings, and that furthermore all the various parts composing my joint for rails are to be made of the proper materials and strength.

What I claim as new, and desire to secure by Letters Patent, is—

The combination of ties, longitudinals, diagonals, rails, fish-plates, lock-latches, expansion and contraction miters resting on chairs of the diagonals at every quarter of a mile (more or less) of the railroad, allowing no expansion or contraction at each rail length, but making one continuous rail for a quarter of a mile, more or less, to expand in and contract out of miters E and G, substantially as described.

The above specification of my invention signed by me this 4th day of January, 1866.

HUGH BAINES.

Witnesses:

JNO. STARK,

WILLIAM J. GREEN.