

(No Model.)

T. H. GIBBON.  
CONSTRUCTION OF RAILWAY TRACKS.

No. 523,340.

Patented July 24, 1894.

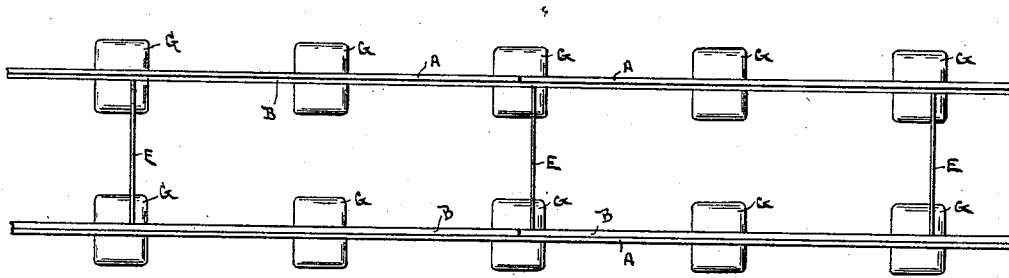


Fig. 1.

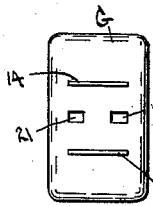


Fig. 3.

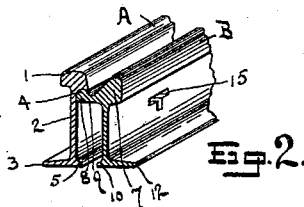


Fig. 2.

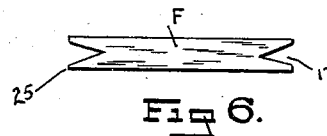


Fig. 6.

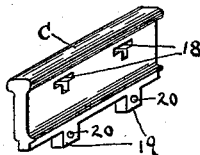


Fig. 4.

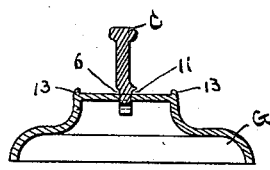


Fig. 5.

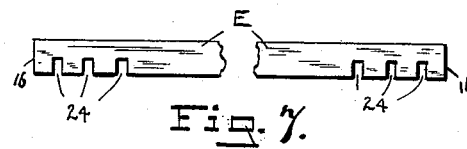


Fig. 7.

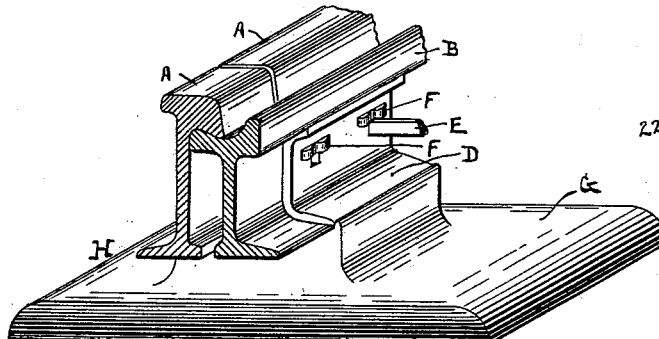


Fig. 9.

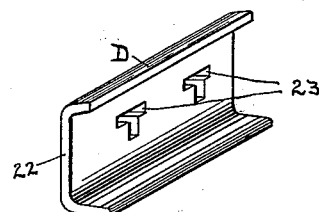


Fig. 8.

WITNESSES:  
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# UNITED STATES PATENT OFFICE.

THOMAS H. GIBBON, OF NEW YORK, N. Y.

## CONSTRUCTION OF RAILWAY-TRACKS.

SPECIFICATION forming part of Letters Patent No. 523,340, dated July 24, 1894.

Application filed March 28, 1893. Serial No. 468,084. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS H. GIBBON, of the city, county, and State of New York, have invented new and useful Improvements in the

5 Construction of Street - Railway Tracks, of which the following is a specification.

This invention relates to improvements on the invention for which Letters Patent No. 459,781 were granted to Catherine L. Gibbon, and myself on the 22d day of September, 1891, for steam car tracks, and in which the rail was required to be made in the special form as fully set forth in said patent, and the object of this invention is to avoid the

15 necessity of conforming to the said special rail, by adapting the construction to the use of any of the common and well known forms of rails now generally used in the construction of street railways. This object I attain by

20 means of the devices illustrated in the accompanying drawings, which are herein referred to and form part of said specification, and in which—

Figure 1 is a plan view of a railway track, embodying my invention; Fig. 2 an enlarged isometrical view of my primary and complementary rail. Fig. 3 is a plan view of my metallic base plate; Fig. 4 an enlarged isometrical view of my metallic rail support; Fig. 5 a

30 transverse section of my base plate and rail support in position to receive my primary and complementary rails. Fig. 6 is a plan view of metallic wedge key. Fig. 7 is a side elevation of my metallic tie rod; Fig. 8 a transverse section of my side plate used at the rail connection; Fig. 9 an enlarged isometrical view of a

35 portion of my track as used with my metal base substructure.

The object of my invention is to provide

40 suitable appliances for building street railways in a permanent, substantial manner, to prevent spreading and creeping of track, allowing the rails to expand and contract, giving absolute contact of metal at the rail connections, without the use of wire, or welding

45 as now used and by a series of under and overlapping of rails, making a continuous, accurate and imperishable track.

As represented in the drawings, my compound rail, whose cross sectional form closely approximates that of a semi-groove rail (although any other form can be made) is composed of a principal rail A, and a complementary rail B, which are joined together longi-

55 tudinally with the conjoining ends of the principal rails, placed intermediately between the conjoining ends of the complementary rails, and thereby a series of break joints is formed throughout the entire length of a track, and thus affords greater stability to the track and

60 equal transmission of rolling load which cannot be obtained by fish plate devices.

The principal rail A, embraces the head 1 upon which the car wheels of a train of cars bear, a web 2, and a bottom flange 3. The

65 head 1 is curved inwardly and upwardly, to engage with the curved rib 4 on the upper face of the complementary rail B as shown in Fig. 2. The principal rail A, may be provided with a longitudinal tongue 5 on the

70 lower part of said flange to engage with a corresponding groove at the foot of the rail support 6, and thereby an interlocking device is formed at the lower part of the rail shown in Fig. 2.

The complementary rail B embraces a head and flange 7, which as shown on Fig. 2, has a rib 8 on its upper inner face designed to form a close fit with the curve in the under side of the head of the principal rail A, as shown in

80 Fig. 2, a vertical web 9, at the lower part of the under face a longitudinal tongue 10 may be formed to engage with the groove 11 of the rail support, said tongue and groove form an interlocking device at the lower part of

85 the rail, a bottom flange portion 12, is formed at the foot of the vertical web of the complementary rail designed to fit snugly within the ribs 13 of the base plate. When the principal and complementary rails are fitted together on the rail support, as shown in the

90 drawings the principal rail A, and complementary rail B are firmly held, so as to prevent any springing up at their ends, from any cause, the bottom flanges 3 and 12, do form

95 an ample base for supporting the compound rail, without a chair as used in my Patents Nos. 429,127 and 429,128. The longitudinal outward flanges of rails A and B are designed to fit snugly within the ribs 13 on the face of

100 the base plate 14. The rails A and B. are also provided with mortises 15 in their vertical webs to receive the transverse tie rod 16, and wedge key 17.

C designates the rail support which is made of metal in forms to suit the rail, is also provided with mortises 18 to receive tie rods and wedge keys, also with lugs 19. having holes

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20 to receive wedge key or pin. Said lugs are designed to pass through the holes 21. and engage in the face of the base plate 14, and when secured by wedge key 17. securely fastens the rail support and base plate firmly together.

D designates the metallic brace piece 22 designed for holding and strengthening the rails at their connections, said brace piece fits snugly under the head of the rails, and inside of the ribs on the base plate, it is provided with mortises 23 to receive the tie rods and wedge keys.

E designates the transverse tie rod 16 which is preferably made of a flat bar of metal, and has on its lower edge three notches 24 near each end thereof, whereby each end of said rod after passing through said mortises engages with rails A and B, rail support C and rail brace D which securely locks them together, accurately gaging the track and preventing the spreading and creeping thereof.

F designates a wedge key preferably made of flat metal 25, bifurcated at each end which after passing through the mortises in the rails A and B, rail support C and rail brace D, secures all the parts together.

G designates my metallic concave base plate, designed to give ample bearing support to the track without the use of cross ties. On its face ribs 13 are formed to secure and hold the flanges of rails in true position. One or more holes 21 are formed to receive the lugs 19. of the rail support C. The lugs of the rail support after passing through the holes in the face of base plate are secured by metallic key 17. and designed when combined to make a rail support with ample bearing surface for the support of track without cross ties.

H. designates a joint section of my track when laid.

My railway tracks are laid in the following manner where metallic base plates are used, instead of timber cross ties: first, the lugs of the rail support are inserted in the mortises in the face of the base plate, after which a metallic key or pin is driven through the holes in the lugs, thus securing the rail support to the base plate, as shown in Fig. 5. After placing them in position on the road-bed prepared for that purpose, the complementary rails are placed upon the rail support, so that the bottom flange of the rail will bear snugly against the ribs on the face of the base plate. After a series of complementary rails are thus laid, the principal rails are placed upon the complementary rails in such manner, that where the principal rails abut each other, they are supported by the solid complementary rail, and where the complementary rails abut each other, the solid principal rail will cover the connection. The side brace piece is then placed in position at the connection of rails. Thus by a series of under and overlapping of rails, a continuous track is assured. The transverse tie rods

are then passed through said mortises. The notches in said tie rods engage in the vertical portion of the mortises in the rails, rail support, and brace piece and when in said mortises the body of the tie rod, that is left above the said notches should fill the vertical branch of said mortise. The tie rod when in position firmly holds all the parts together, and secures accurate gage of track. The notches in the tie rods are located to the gage required. The wedge key is then driven through the mortises in said rails, rail support and brace piece and all the parts are firmly locked together as shown in Fig. 9, after which line and tamp up and a permanent uniform and elastic track is assured.

I claim as my invention and desire to secure by Letters Patent—

1. A metallic railway track chair, composed of a rail support, and concave base plate, said rail support being composed of a head portion, a web portion having mortises and flange portion with lugs at the bottom, said lugs having a hole to receive a wedge key, and a concave base plate having holes in its face to receive said lugs, and ribs to secure said flanges of rail, and concave base plate when in position and secured by wedge key, making a railway track chair and track support, as and for the purpose specified.

2. The combination of a primary and complementary track rail, provided with transverse mortises, a rail support having transverse mortises in its web and perforated lugs on its bottom face, a metallic base plate, having ribs to receive and secure the bottom flanges of rails, and holes to receive the lugs of the rail support as and for the purpose specified.

3. The combination of a primary and complementary track rail, a rail support and brace piece each having mortises in their web members to receive the tie rods and wedge keys, of a tie rod extending entirely across two oppositely located tracks and provided at the lower face at each end with three notches which hook onto the webs of said rails, rail support and brace piece as and for the purpose specified.

4. The combination of a primary and complementary track rail, a rail support with lugs on its lower face, having a hole or holes to receive the securing key, fitted to engage in the holes in the face of the base plate, a base plate with holes and ribs on its face to receive the lugs of the rail support and flanges of the primary and complementary rail, a rail brace, each having mortises in their webs to receive the tie bars and wedge keys, a transverse tie bar notched to engage with the webs of the rails, rail support, and brace piece as and for the purpose specified.

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Witnesses:

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