(No Model.)

# C. L. & T. H. GIBBON.

## CONSTRUCTION OF RAILROAD TRACKS.

No. 459,780. Patented Sept. 22, 1891.

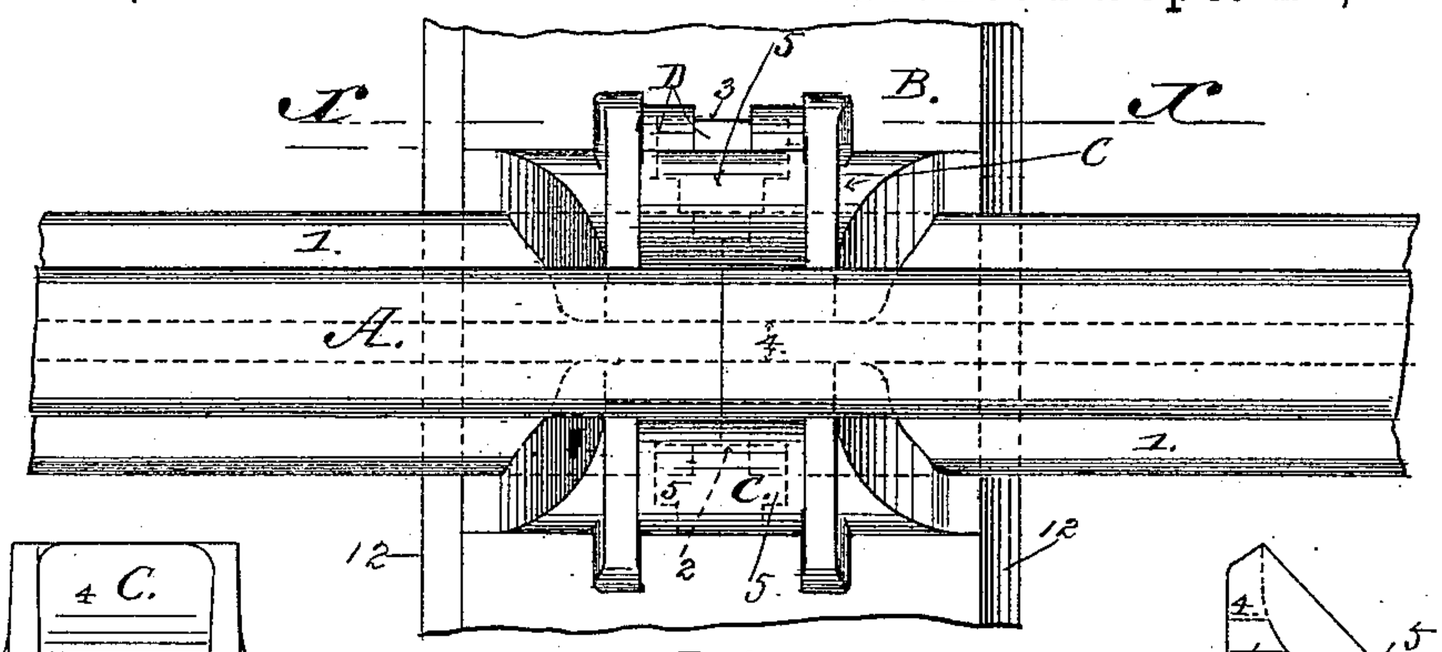



FIG. 1.

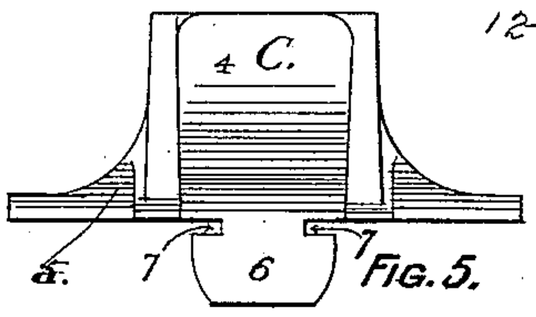



FIG. 5.

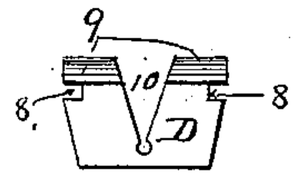
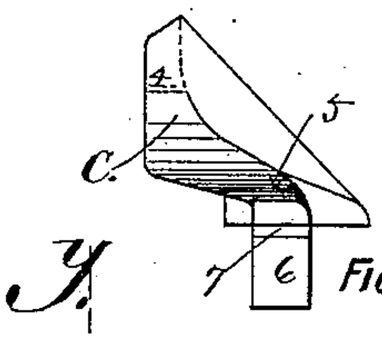



FIG. 7.




Y.

FIG. 6.

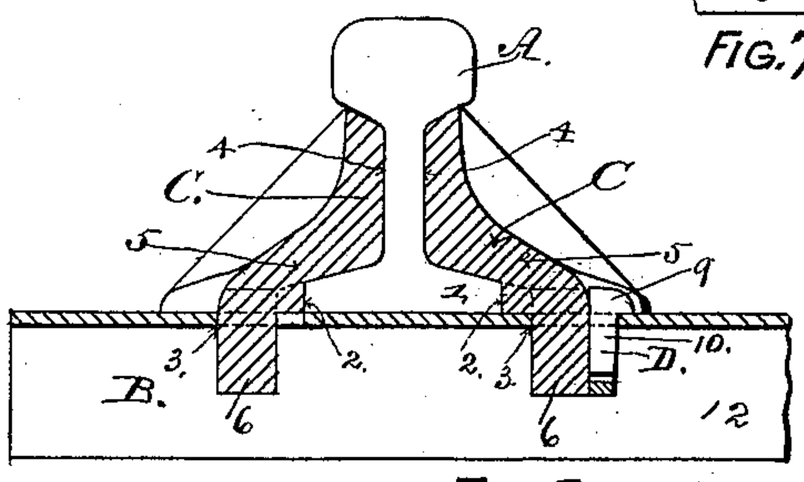



FIG. 3.

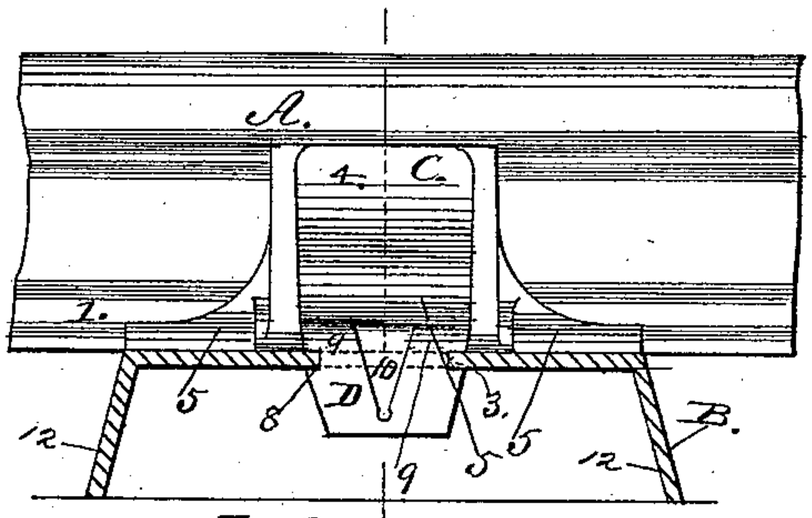
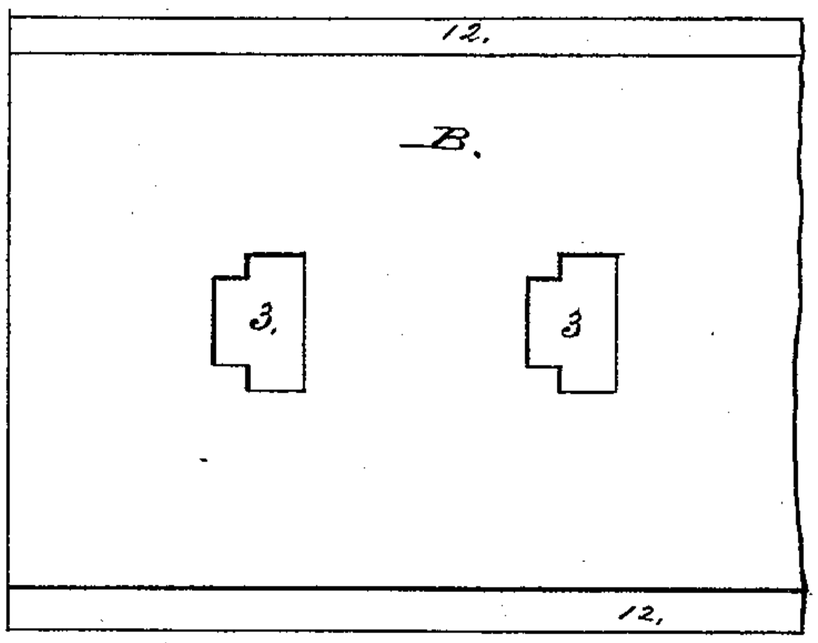



FIG. 2.

Y.



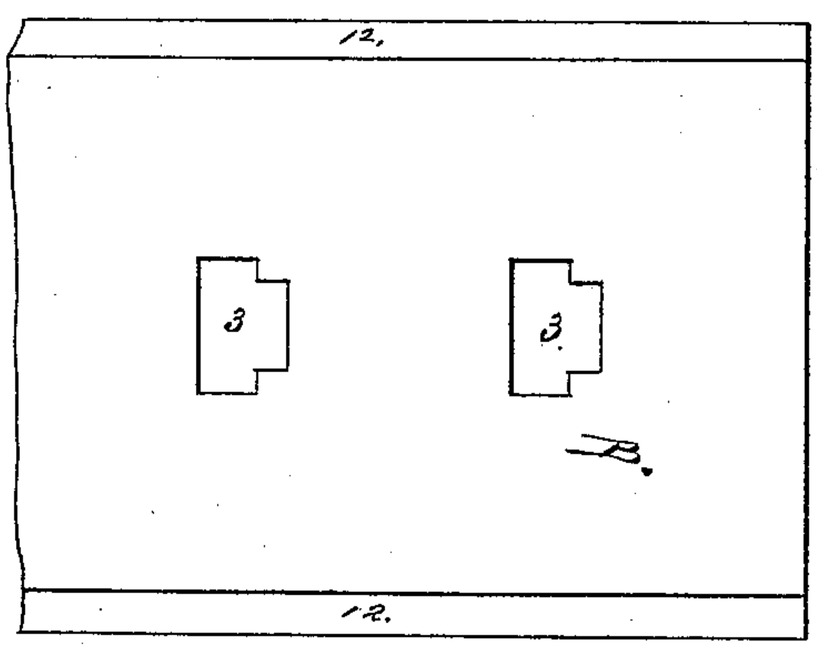




FIG. 4.

Witnesses:

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

CATHARINE L. GIBBON AND THOMAS H. GIBBON, OF NEW YORK, N. Y.

## CONSTRUCTION OF RAILROAD-TRACKS.

SPECIFICATION forming part of Letters Patent No. 459,780, dated September 22, 1891.

Application filed June 28, 1890. Serial No. 357,068. (No model.)

*To all whom it may concern:*

Be it known that we, CATHARINE L. GIBBON and THOMAS H. GIBBON, both of the city, county, and State of New York, have invented new and useful Improvements in the Construction of Railway-Tracks, of which the following is a specification.

Our invention relates to improvements in the construction of railway-tracks; and the objects of our invention are to render the structure more enduring by substituting metal and other imperishable material for wood in the parts of the track which are commonly made of the latter material, to simplify the construction and lessen the liability to derangement by dispensing with the use of bolts, rivets, and spikes in the construction of the tracks. We attain these objects by the means illustrated in the accompanying drawings, which are herein referred to and form part of this specification, and in which—

Figure 1 is a plan view of a portion of the track-rails and cross-tie of a railway-track which embodies our invention. Fig. 2 is a vertical section of Fig. 1 at the line X X. Fig. 3 is a vertical section of Fig. 2 at the line Y Y. Fig. 4 is a plan view of our metallic cross-tie, the middle portion being broken away for convenience of illustration. Figs. 5 and 6 are respectively detached side elevation and end elevation of our cheek-piece or rail-brace, and Fig. 7 is a detached side elevation of our self-locking key for securing the track-rails to the cross-ties.

As represented in the drawings, A designates the track-rail, which may be made in the form shown or in any other form suitable for the purpose. The bottom flange 1 of said track-rail is notched, as at 2, as shown by dotted lines in Fig. 1, at each edge of both ends for the purpose of allowing a shoulder of the cheek-piece *c*, hereinafter described, to enter therein.

B is a metallic cross-tie, which is made in the form of an inverted gutter or channel, having side flanges 2 extending downwardly at its opposite edges. Said cross-tie is preferably made of either sheet or cast metal; but it may be made of glass, slag, or other suitable material. Near each end of said cross-tie its upper plate is provided with a pair of T-shaped openings 3, arranged at suitable distances apart to correspond to the gage of the track to be fixed thereon. The wider part of said openings is formed transversely in said cross-tie at its center line, and the narrower part of each opening leads toward the corresponding end of the cross-tie; but when preferred the narrow part of said openings may be arranged to lead toward the middle of the cross-tie.

C designates the metallic cheek-piece or rail-brace for holding the track-rails A. Said cheek-piece consists of a vertical flange 4, fitted to bear against the side of the web of the track-rail A and having its upper edge fitted to bear against the lower side of the head of said rail. At the lower edge of said vertical flange an inclined face 5 extends outwardly and is fitted to bear upon the upper face of the bottom flange 1 of the track-rail A. Said inclined face expands laterally to conform to the width of the upper side of the cross-tie B and extends down to be flush with the lower face of the bottom flange of the track-rail A. From the last-named point a pendent flange 6 is formed to extend downwardly at the edge of the bottom flange of the track-rail. Said pendent flange is made to conform in width to the wider part of the openings 3 of the cross-tie B and is provided with side incisions 7, by which said flange is reduced in width at its upper portion so as to conform to the width of the narrow part of said opening. Said incisions form locking devices to engage with the upper plate of the cross-tie at the opposite sides of the narrow part of the openings 3, and thereby said cheek-piece will be held securely down on the upper face of the cross-tie B.

D designates the self-locking key, which is made of resilient metal in a wedge-shaped form, and it is provided with incisions 8 in its opposite edges, said incisions being fitted to engage with the upper plate of the cross-tie B at the opposite sides of the wider part of the openings 3. A head 9 is formed on the upper part of said key, and a V-shaped opening 10 is cut in said key to extend from the top to near the bottom of the latter, said cut allowing the key to be compressed edgewise sufficiently to permit the wider part to pass into the opening 3, which being accomplished the resilience of the metal causes the key to resume its orig-

inal form, and thereby the incisions 8 will become locked on the upper plate of the cross-tie B.

Our railway-tracks are laid in the following manner: The cheek-pieces C for bearing against the outer side of the track-rails have their pendent flanges 6 inserted in the larger part of the openings 3, with the plain sides of said cheek-pieces facing each other, and said cheek-pieces are then pushed outwardly until the contracted necks of the pendent flanges have reached the extremity of the narrow part of the openings 3. This operation may be accomplished before the cross-ties B are placed on the road-bed. When said cross-ties are in place, the track-rails A are placed thereon so that the outer side of said track-rail will bear against the inner face of the fixed cheek-pieces. The inner cheek-pieces are then placed in position by inserting their pendent flanges into the wider part of the openings 3 appropriated to them and pushing the contracted neck of said flanges into the narrow part of said openings until the plain faces of the cheek-pieces have attained a fair bearing against the inner face of the track-rails. Then by inserting the wedge-shaped key D into the open space between the pendent flange 6 and the inner edge of the opening 3, as shown in Fig. 3, and driving said key home the track-rails will be secured to said cross-ties in a very rigid and substantial manner, and said tracks will at the same time be brought to their proper gage.

We do not confine ourselves to the particular form of track-rail herein shown, as our improvements are applicable without further invention to compound rails, double-headed rails, and all track-rails commonly used on railways.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The combination of a track-rail, a cross-tie having a series of T-shaped openings in its upper face, cheek-pieces or rail-braces fitted to engage in said openings and to bear against the opposite sides of said track-rail, said cheek-pieces being each provided with a lug or shoulder on the lower face thereof, said lug being fitted to enter the notches in the bottom flange of the track-rail, and a key provided with notches in its opposite edges to engage in the openings of said cross-tie for securing said cheek-pieces in said openings, as and for the purpose herein specified.

2. The combination of a track-rail, a cross-tie having a series of T-shaped openings in its upper face, cheek-pieces or rail-braces fitted to engage in said openings and to bear against the opposite sides of said track-rail, and a self-locking key for securing said cheek-pieces in said openings, said key having in its upper edge a V-shaped opening and in its opposite inclined edges notches fitted to engage in the openings in the cross-tie, as and for the purpose herein specified.

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