

A. M. BAIRD.
METALLIC RAILROAD TIE.
APPLICATION FILED DEC. 9, 1908.

946,530

Patented Jan. 18, 1910.

Fig 1

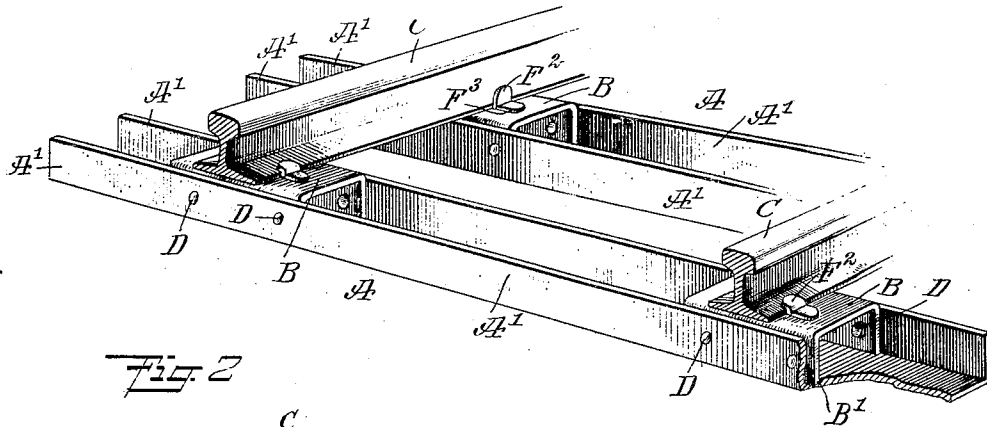


Fig 2

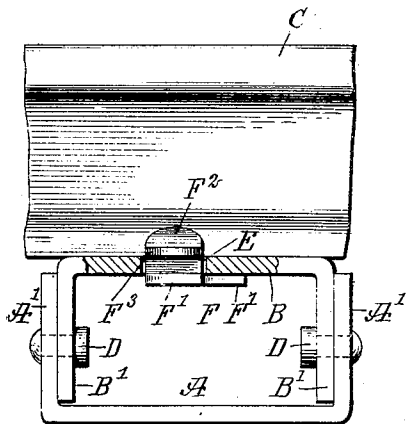


Fig 3

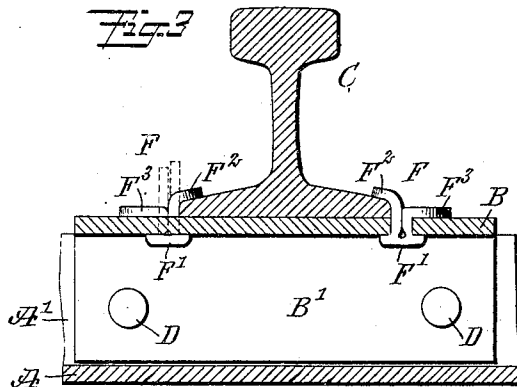


Fig 4

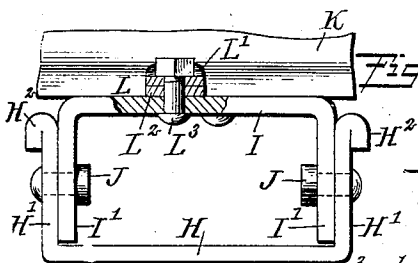


Fig 5

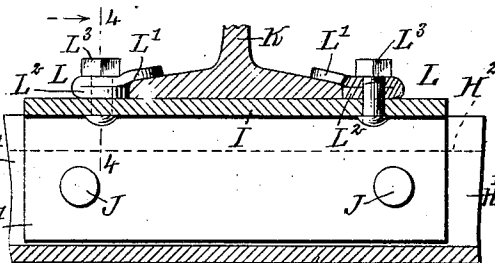


Fig 6

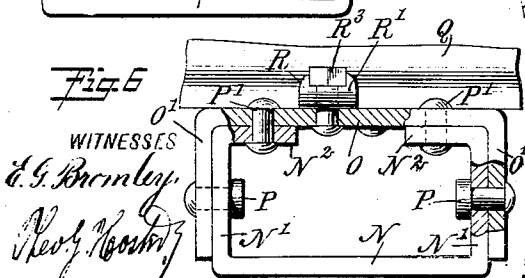
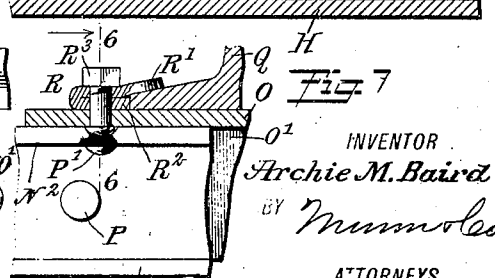


Fig 7



WITNESSES
G. G. Bromley
New York

INVENTOR
Archie M. Baird
BY Munroe
ATTORNEYS

UNITED STATES PATENT OFFICE.

ARCHIE MARKLAND BAIRD, OF TOPEKA, KANSAS, ASSIGNOR OF ONE-THIRD TO WM. H. HOLMES AND ONE-THIRD TO MORTON WOLLMAN, BOTH OF KANSAS CITY, MISSOURI.

METALLIC RAILROAD-TIE.

946,530.

Specification of Letters Patent.

Patented Jan. 18, 1910.

Application filed December 9, 1908. Serial No. 466,654.

To all whom it may concern:

Be it known that I, ARCHIE MARKLAND BAIRD, a citizen of the United States, and a resident of Topeka, in the county of Shawnee and State of Kansas, have invented a new and Improved Metallic Railroad-Tie, of which the following is a full, clear, and exact description.

The invention relates to metallic railroad ties, such as shown and described in the Letters Patent of the United States, Numbers 804,084, 858,942 and 902,364, granted to me November 7, 1905, July 2, 1907 and October 27, 1908, respectively.

The object of the present invention is to provide a new and improved metallic railroad tie, which is flexible and capable of successfully withstanding the heavy pounding incident to powerful, high speed locomotives passing over the rails held on the ties, the latter consisting essentially of a channel plate, tie plates near each end of the channel plate and fastening lugs for securing the rail bases to the tie plates, each lug having doubled up members, of which one is bent up upon the base of the rail and the other engages the top of the tie plate.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of the improvement; Fig. 2 is an enlarged end elevation of the same, part of the tie plate being in section; Fig. 3 is a longitudinal section of the same; Fig. 4 is an end elevation of a modified form of the improvement, part being in section on the line 4-4 of Fig. 5; Fig. 5 is a longitudinal section of the same; Fig. 6 is an end elevation of another modified form of the improvement, part being in section on the line 6-6 of Fig. 7; and Fig. 7 is a longitudinal section of the same.

As illustrated in Figs. 1, 2 and 3, the metallic tie is in the form of a channel plate A, and its side members A' are bridged near the ends thereof by tie plates B, on which rest the bases of the rails C, as plainly illustrated in Fig. 1. Each tie plate B is provided with depending flanges B', fitting against the inside of the side members A' of the channel plate A, and the said flanges B' and the corresponding side members A' are

rigidly fastened together by rivets D or other suitable fastening means. Each tie plate B is provided with openings E in position corresponding to the edges of the rail base when the rail is in position on the tie plate, as illustrated in Figs. 1, 2 and 3. Each of the openings E is adapted to receive a fastening device F for holding the rail C in place on the tie plate B, and each fastening device F consists of a lug having a head F' from which extend integrally doubled up members F², F³, of which the terminal of the member F² is adapted to be bent over onto the top of the base of the rail C, while the terminal of the other member F³ is bent in an opposite direction onto the top of the tie plate B. The head F' of each lug abuts against the under side of the tie plate B, and by the arrangement described the rail C can be securely fastened in place on the tie plate B and held thereon, especially as the member F³ forms an abutment for the other member F², to prevent lateral movement of the rail C on top of the tie plate B. As indicated in Fig. 2, the openings E and the corresponding fastening devices F are arranged somewhat out of transverse alinement, that is, the fastening devices F are not located directly opposite each other.

As illustrated in Figs. 4 and 5, the channel plate H has its side members H' doubled up in an outward direction at the upper edges, to form longitudinal reinforcing ridges H², and each tie plate I is provided with depending flanges I' fitting the inside of the side members H' and being secured thereto by rivets J or other fastening devices. The rail K is held in place by fastening devices L in the form of doubled up lugs, having the top member L' extending onto the top of the base of the rail K, while the other member L² rests on top of the tie plate I, and the lug is fastened in place on the tie plate by a bolt L³ extending through the tie plate I and the lug.

In the modified form shown in Figs. 6 and 7, the channel plate N has its side members N' terminating at the top in inwardly extending flanges N², on which rests the tie plate O having depending flanges O' fitting the outside of the members N' and being secured thereto by rivets P or other fastening means. Rivets P' are used for fasten-

ing the flanges N^2 to the tie plate O. The rail Q is secured to the tie plate O by fastening devices R, similar to the one shown in Figs. 4 and 5, that is, each fastening device 5 R consists of a doubled up lug having its top member R' engaging the top of the base of the rail Q, while the lower member R^2 rests on the top of the tie plate O, and the lug is secured in place on the tie plate by a 10 bolt R^3 .

By the arrangement described each tie plate spans a channel plate, thus giving the desired flexibility to the railroad tie, thereby permitting the latter to successfully with- 15 stand the heavy pounding incident to powerful high speed locomotives passing over the rails held on the metallic tie.

Having thus described my invention, I claim as new and desire to secure by Let- 20 ters Patent:

1. A metallic railroad tie comprising a channel plate, tie plates crossing the said channel plate near the ends thereof and hav- 25 ing depending flanges fitting the sides of the said channel plate, each of the said tie plates being provided with openings there- through in positions corresponding to the edges of the rail base when in position on

the tie plate, means for permanently fasten- ing the said tie plate flanges to the sides of 30 the said channel plate, and lugs adapted to be passed through the said tie plate open- ings and having heads for engaging the under side of the tie plate, said lugs also having doubled up members, the terminal of 35 one of which is bent over the rail base and the other engages the top of the tie plate.

2. A metallic railroad tie having a tie plate provided with openings therethrough in positions corresponding to the edges of 40 the rail base when in position on the tie plate, and lugs adapted to be passed through the said tie plate openings and having heads for engaging the under side of the plate, said lugs also having doubled up members, 45 the terminal of one member being bent over the rail base and the terminal of the other member being bent onto the top of the tie plate.

In testimony whereof I have signed my 50 name to this specification in the presence of two subscribing witnesses.

ARCHIE MARKLAND BAIRD.

Witnesses:

DON KINNEY,
H. A. INGOLD.