

(No Model.)

A. GILPIN.  
RAILWAY FROG CLAMP.

No. 417,781.

Patented Dec. 24, 1889.

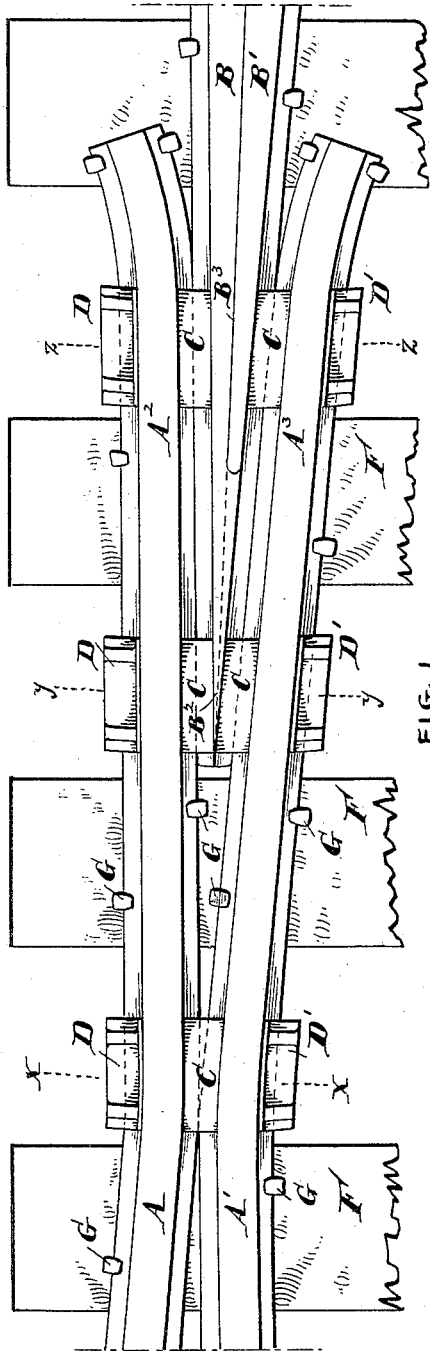


FIG. 1

WITNESSES:

Henry Drury  
Joshua Matlack, Jr.

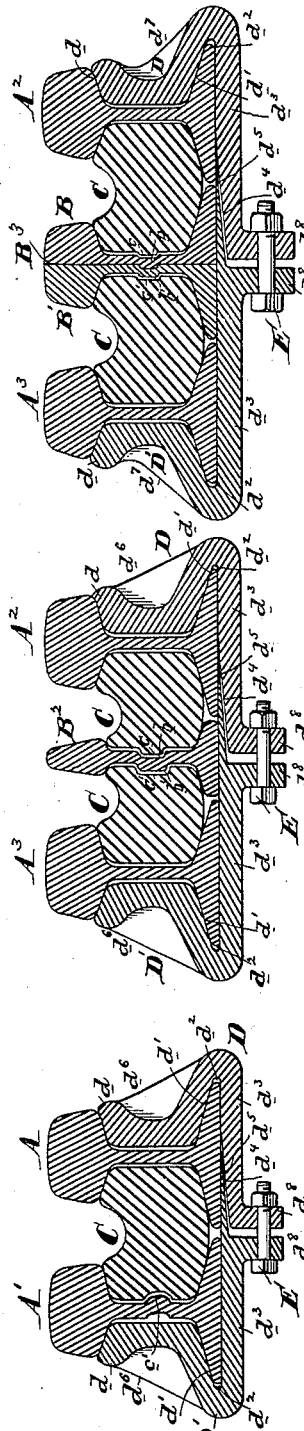


FIG. 4

FIG. 3

FIG. 2

INVENTOR:

Archibald Gilpin  
by his attorney  
James T. Chambers

# UNITED STATES PATENT OFFICE.

ARTHINGTON GILPIN, OF PHILADELPHIA, PENNSYLVANIA.

## RAILWAY-FROG CLAMP.

SPECIFICATION forming part of Letters Patent No. 417,781, dated December 24, 1889.

Application filed November 2, 1888. Serial No. 289,792. (No model.)

*To all whom it may concern:*

Be it known that I, ARTHINGTON GILPIN, of the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful  
5 Improvement in Railway-Frog Clamps, of which the following is a true and exact description, reference being had to the accompanying drawings, which form a part of this specification.

10 My invention relates to the construction of railway-frogs, and has for its object to at the same time simplify the construction of the same and make them stronger and more durable.

15 Heretofore the general practice has been to secure the rails and separators making up the frog together by bolts or rivets running through the web of the rails, and by U-shaped forgings made to act as clamps, by means of  
20 wedges driven between their arms and the webs of the outer rails, and trouble has been of constant occurrence, owing to the breaking of the bolts or rivets and the loosening of the wedges. The weakening of the rails by pierc-  
25 ing them for the rivets has also been found objectionable. By my construction, herein-after described, I avoid the use of rivets or bolts passing through the rails, and make a frog at once simple and strong and at the same  
30 time easy to tighten when it becomes loose in the constant jarring of use.

Reference is now had to the drawings illustrating my invention, and in which—

35 Figure 1 is a plan view of a frog made in accordance with my invention; and Figs. 2, 3, and 4, cross-sections of the same on the lines  $x x$ ,  $y y$ , and  $z z$ , respectively.

40 A and A' are rails of intersecting tracks; A<sup>2</sup> and A<sup>3</sup>, prolongations of said rails, forming guard-rails of the usual character.

45 B and B' are the two rails forming the point of the frog. They are cut away at an angle along their abutting surfaces, as shown at B<sup>3</sup>, the extreme point B<sup>2</sup> being generally formed from only one rail, as shown.

50 C, C, &c., are the separator-blocks, which may be of the usual construction, though I prefer to provide those that rest against the point with the projection and cavity herein-after described.

D D are frog-clamps, which may be of forged or cast metal. They are made up of a base

$d^3$ , formed so as to lie flat against the base of the frog-rails, an upwardly and inwardly extending arm formed with faces  $d$  and  $d'$ , 55 adapted to fit against the opposite faces of the head and rail-base, as shown, and are preferably made with a straight inclined surface, or with ribs having straight inclined surfaces, as is indicated at  $d^6$ . In order that 60 the surfaces  $d$   $d'$  of the clamp should fit against the head and base of the rail, it is important that a clearance should be left at  $d^2$ . On the inner end of the bases  $d^3$  lugs  $d^8$  are formed, through which bolts E pass to 65 draw the clamps together and hold them in position, as shown. Preferably I provide one of each pair of clamps with a projecting wedge  $d^5$ , and bevel the upper face  $d^4$  of the opposite base to fit under it, thus obtaining a 70 wedging action between the pair of clamps, which increases the strength and solidity of the frog.

In order to prevent the displacement of the separator-blocks and to hold the beveled 75 ends of the rails B B' together, I form the separator-blocks with projections or depressions, such as are shown at  $c c'$ , where two blocks are situated on opposite sides of a point, as in Figs. 3 and 4, making one with a 80 projection  $c$  and the other with a complementary depression  $c'$ , arranged to come opposite the projection. I then indent the web of the rail so as to form a projection  $b'$  on one side and a complementary recess on the 85 opposite side. Where, as in Figs. 3 and 4, the webs of two rails lie together in forming the point, I make the indentation through both abutting webs, thus locking them together, and when the blocks C are inserted in 90 place the projections of the web fit in the recesses of the blocks and the projections of the blocks in the recesses in the web, thus effectually preventing relative movement so long as the clamp acts to hold the parts to- 95 gether.

My device is put together much as is the ordinary frog, the separator-blocks being placed between the rails and the clamps, then adjusted and drawn together by the bolts E. 100 It will be noticed that in case of loosening of the clamps their bolts are easily gotten at, and an ordinary section-hand can adjust them with a wrench.

The advantage of making the upwardly-extending arm of the clamp with a straight inclined face  $d^6$ , as shown in Figs. 2 and 3, is that in case of a wheel jumping the track its flange slides off this inclined face, instead of falling on a level or substantially level flange, which it would be apt to break.

Of course my device may be used with a frog secured together, in whole or in part, by rivets; but I prefer to dispense with them in all cases where it is practicable.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a railway-frog, the combination, with the rails making up the frog, of separators C, interposed between the rails, and clamps D, arranged in pairs, fitting under the head and over the base of the rail, said clamps being provided with flanges fitting under and affording support to all of the rails embraced in the frog, and having downwardly-extending lugs formed on said flanges, and a bolt or bolts E, passing through the downwardly-extending lugs aforesaid and not extending beyond the outer edges of the frog, all substantially as and for the purpose specified.
2. In a railway-frog, the combination, with

the rails making up the frog, of separators C, interposed between the rails, and clamps D, arranged in pairs, having upwardly and inwardly extending arms with faces  $d$   $d'$ , adapted to fit against the head and base of the rail and a straight inclined outer surface  $d^6$ , said clamps having flanges  $d^3$   $d^3$  fitting under and affording support to all of the rails embraced in the frog, and having downwardly-extending lugs formed on said flanges, and one or more bolts E, passing through the downwardly-extending lugs aforesaid and not extending beyond the outer edges of the frog, all substantially as and for the purpose specified.

3. In a railway-frog, the combination of rails having indentations in their webs with separators having complementary irregularities in their surfaces abutting against said webs and formed to fit up under the heads of the wing-rails, and clamps holding the rails and separators together, all substantially as and for the purpose specified.

ARTHINGTON GILPIN.

Witnesses:

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