

(No Model.)

A. P. BLIVEN.

TIE PLATE AND SPIKE FOR RAILWAY RAILS.

No. 571,743.

Patented Nov. 24, 1896.

FIG. 1.

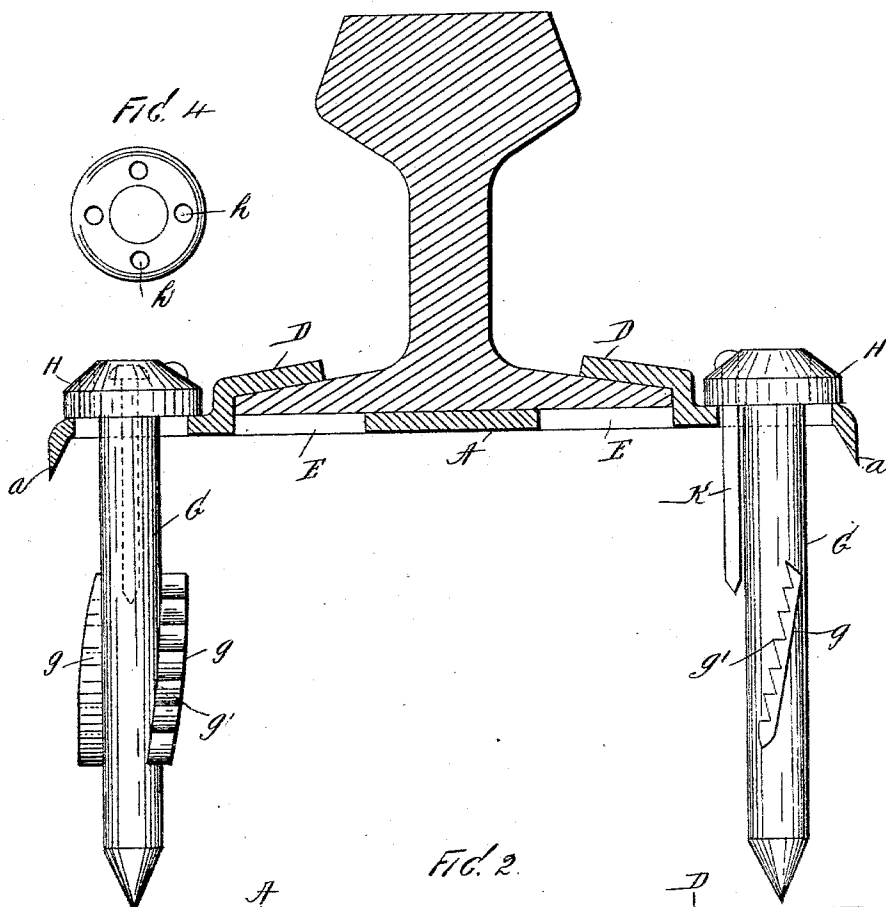
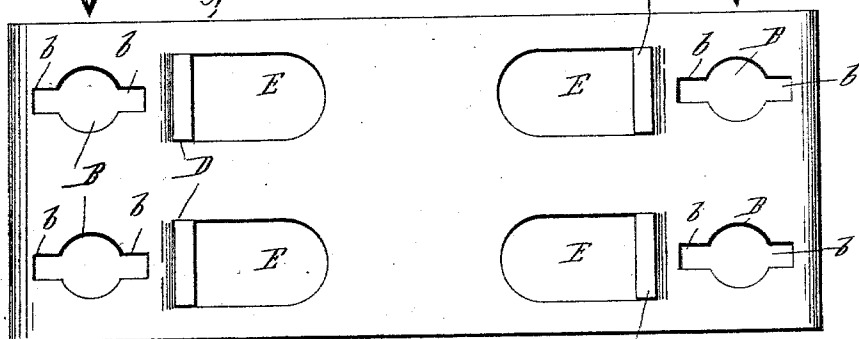


FIG. 2.



WITNESSES:

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FIG. 3.



INVENTOR

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TIE-PLATE AND SPIKE FOR RAILWAY-RAILS.

SPECIFICATION forming part of Letters Patent No. 571,743, dated November 24, 1896.

Application filed March 5, 1896. Serial No. 581,942. (No model.)

To all whom it may concern:

Be it known that I, ALONZO PERRY BLIVEN, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Tie-Plates and Spikes for Railway-Rails, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar letters of reference indicate corresponding parts.

This invention relates to tie-plates for railways and to spikes which are adapted to be used in connection therewith; and the object of the invention is to provide an improved tie-plate which is adapted to serve as a safe and secure support for the rails, and which is provided with improved means for connecting the rails thereto, a further object being to provide improved spikes for use in connection with such tie-plates, which are provided with means to prevent their accidental removal from the ties or to prevent the same from working loose, which frequently occurs in this class of devices.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which—

Figure 1 is a transverse section of a railway-rail and a longitudinal section of my improved tie-plate, showing the rail in position and the spikes by which the plate is connected with the ties; Fig. 2, a plan view of the tie-plate; Fig. 3, a view of one end thereof, and Fig. 4 a plan view of one of the spikes.

In the practice of my invention I provide a tie-plate A, which is preferably oblong in form, and which is provided at each end with circular openings B, which are adapted to receive the spikes, and said openings are provided at their opposite sides with extensions b, the object of which will be hereinafter described. The tie-plate A is also provided at each end with downwardly-projecting teeth a, as clearly shown in Figs. 1 and 3, the object of which is to secure the plate in position upon the tie and to prevent the slipping thereof, and said plate is also provided near each end with wings or projections D, which are adapted to be bent or folded over the base-flanges of the rail, as

shown in Fig. 1. These wings or projections D are cut from the material of the tie, the inner ends and the sides thereof being cut out, by which operation the openings E are formed in the body of the tie, and said wings or projections are then bent upwardly, as shown in dotted lines in Fig. 1, and after the rail has been placed in position they are bent or hammered down into the position shown in said figure, and by means of this construction I provide an absolutely secure support for the rail and also means for holding it in the required place.

My improved spikes, which are shown at G in Fig. 1, are preferably cylindrical in form and provided on their opposite sides with inclined or spiral flanges g, and said flanges are provided on their upper outer surfaces with upwardly-directed teeth g', and the object of the extensions b of the circular openings B in the tie-plate is to provide room for the passage of these flanges when the spikes are driven into position. The flanges g, with the teeth or projections g' thereon, will securely hold the spikes within the ties, and said spikes cannot be removed without the application of great force, and said flanges will also prevent the accidental removal of the spikes or the loosening thereof, which, as is well known, frequently occurs.

My improved spikes are also provided with circular heads H, and these heads H are provided with an opening or openings h, and in practice I also prefer to employ additional locking devices consisting of key pins or bolts K, which are driven through said openings h and through the extensions g of the circular openings G into the ties, and these key pins or bolts also serve to prevent the spikes from turning or working loose.

My invention is not limited to the exact form, construction, and arrangement of the various parts thereof as herein shown and described, and I therefore reserve the right to make all such alterations therein and modifications thereof as fairly come within the scope of the invention.

Having fully described my invention, its construction and operation, I claim as new and desire to secure by Letters Patent—

1. A tie-plate provided with spike-openings at each end thereof, having extensions at the

sides, said openings being adapted to receive spikes, provided with inclined or spiral flanges on the sides thereof, substantially as shown and described.

5 2. The combination with a railroad-rail of a tie-plate provided with spike-openings at each end thereof with extended slotted sides in said openings adapted to receive spikes; and spikes provided with inclined or spiral
10 flanges on the sides thereof, said flanges being provided with upwardly-directed teeth or projections on their outer or upper sides, substantially as shown and described.

15 3. A tie-plate for railway-rails, provided with upwardly-directed wings or projections which are cut from the material of the plate, and which are adapted to be folded or bent down over the flanges of a rail, said plate
20 said wings or projections with spike-openings, and said openings being provided with extensions at each side which are adapted to receive, or through which are adapted to pass, inclined flanges formed on the sides of the
25 spike, substantially as shown and described.

4. The combination with a tie-plate for railway-rails, provided with wings or projections which are adapted to be folded over the base-flanges of a rail, and with spike-openings at
30 each end thereof, which are provided with extensions at their sides, of spikes which are adapted to be passed through said spike-open-

ings and which are provided with inclined or spiral flanges having teeth or projections on their upper or outer surfaces, substantially
35 as shown and described.

5. The combination with a tie-plate for railway-rails, provided with wings or projections which are adapted to be folded over the base-flanges of a rail and with spike-openings at
40 each end thereof, which are provided with extensions at their sides, of spikes which are adapted to be passed through said spike-openings and which are provided with inclined or spiral flanges having teeth or projections on
45 their upper or outer surfaces, and said spikes being also provided with heads having openings or holes formed therein, substantially as shown and described.

6. A railway-spike provided with inclined
50 or spiral flanges on its sides having projections or teeth on their outer or upper surfaces, and with a head in which is formed a hole or opening which is adapted to receive a key pin or bolt, substantially as shown and
55 described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 4th day of March, 1896.

ALONZO PERRY BLIVEN.

Witnesses:

C. GERST,

C. G. MILLIN.