B. BOURNE.

SECURING DEVICE FOR TRACK RAILS.

APPLICATION FILED JUNE 24, 1909.

935,580.

Patented Sept. 28, 1909.

2 SHEETS—SHEET 1.

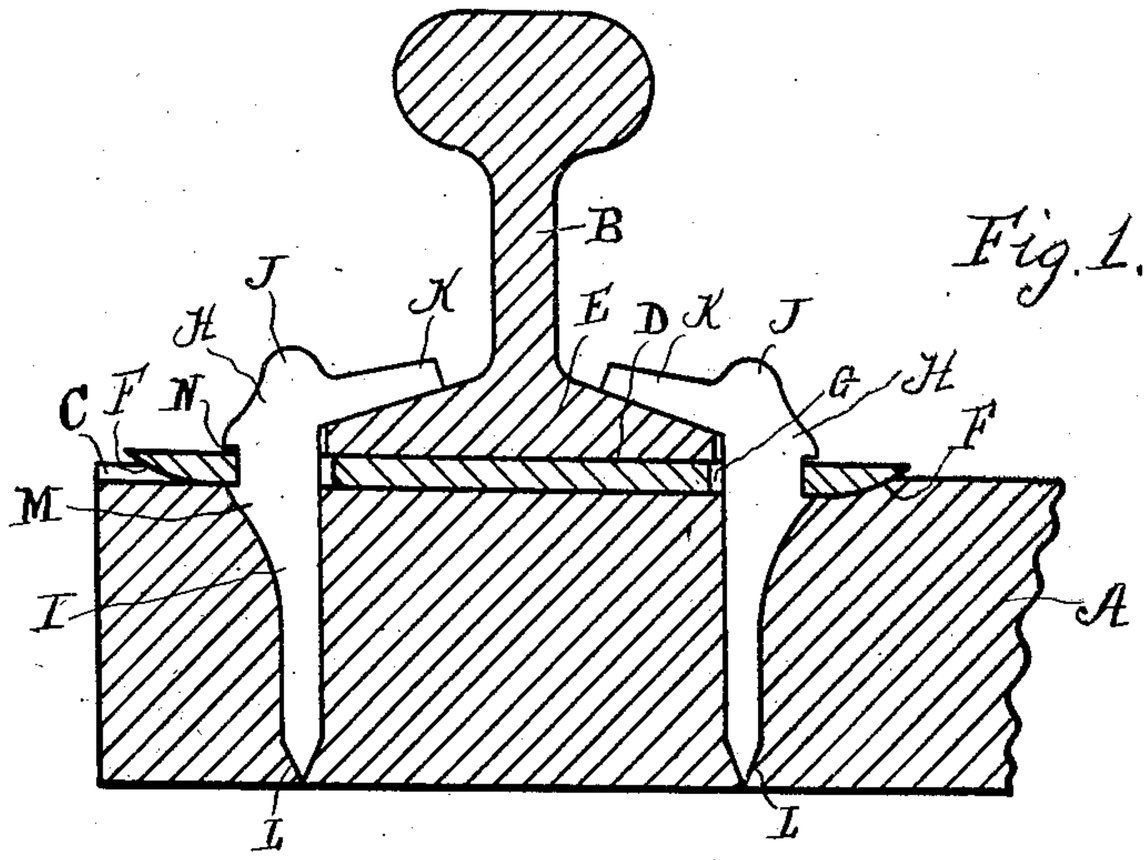

Fig. 1.

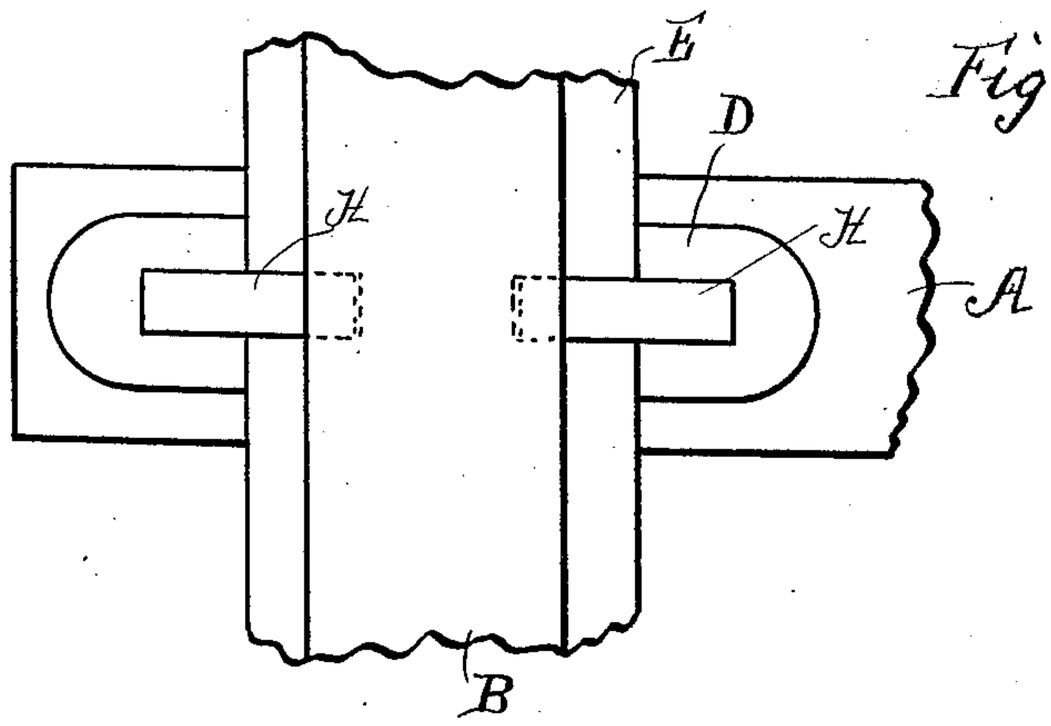

Fig. 2.

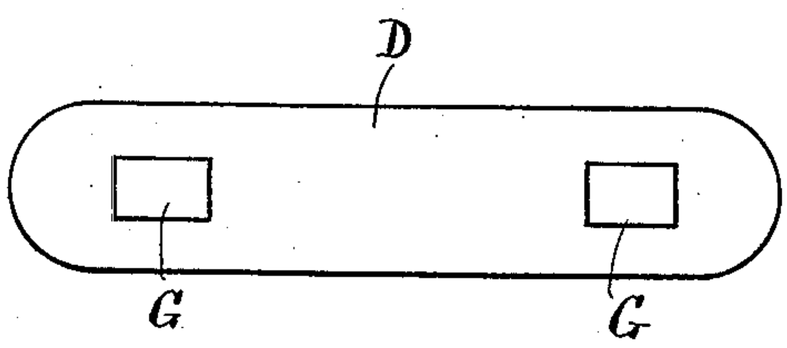

Fig. 3.

WITNESSES

S. M. Gallagher.

F. A. Burton

INVENTOR

Benjamin Bourne

BY

W. Preston Hildebrand

ATTORNEY

B. BOURNE.

SECURING DEVICE FOR TRACK RAILS.

APPLICATION FILED JUNE 24, 1909.

935,580.

Patented Sept. 28, 1909.

2 SHEETS—SHEET 2.

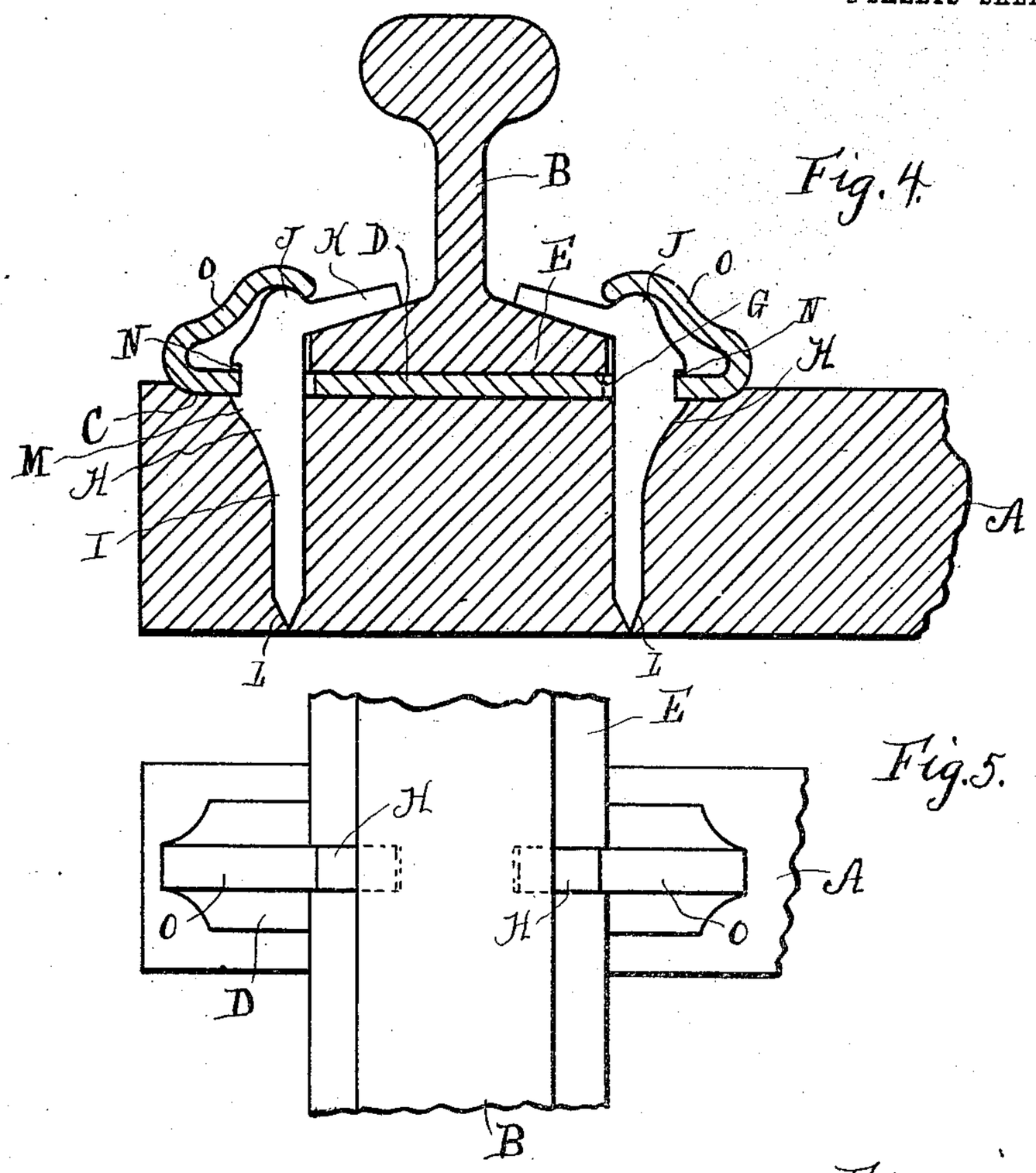

Fig. 4.

Fig. 5.

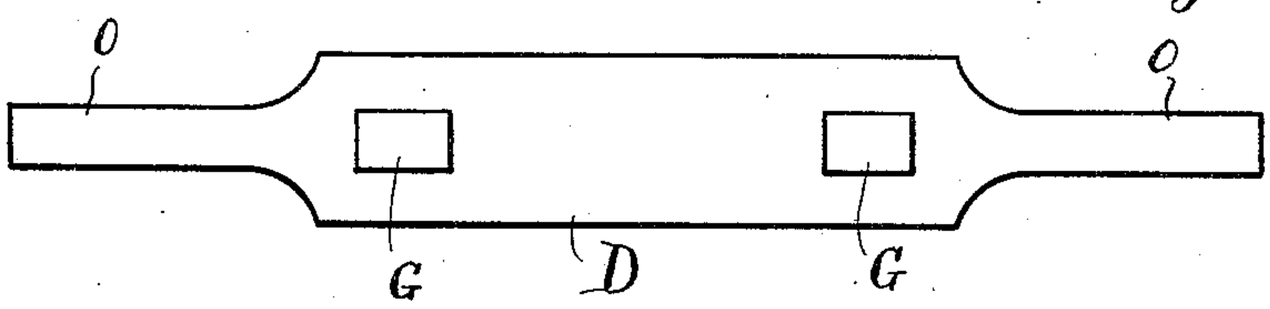

Fig. 6.

WITNESSES

S. M. Gallagher,

F. A. Burton

INVENTOR

Benjamin Bourne

BY

W. Preston Hildreth

ATTORNEY

UNITED STATES PATENT OFFICE.

BENJAMIN BOURNE, OF PHILADELPHIA, PENNSYLVANIA.

SECURING DEVICE FOR TRACK-RAILS.

935,580. Specification of Letters Patent. **Patented Sept. 28, 1909.**

Application filed June 24, 1909. Serial No. 503,982.

To all whom it may concern:

Be it known that I, BENJAMIN BOURNE, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a certain new and useful Improvement in Securing Devices for Track-Rails, of which the following is a specification.

My invention relates to a new and useful improvement in securing devices for track rails, and has for its object to provide an exceedingly simple and effective device of this character, whereby a locking plate, the spikes and the rail are locked together so that no one of them can be removed by vibration or the like without the other.

Another object of the device is to provide means for preventing the slipping or lateral movement of the rails.

With these ends in view, this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, I will describe its construction in detail, referring by letter to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a longitudinal sectional view of a tie, rail and the locking plate, the spikes being left in elevation. Fig. 2, is a plan view thereof. Fig. 3, is a plan view of the locking plate. Fig. 4, is a view similar to Fig. 1 of a slightly modified form of my improvement. Fig. 5, is a plan view thereof, and Fig. 6, is a plan view of the modified form of the locking plate showing its shape before the ends are bent up.

In carrying out my invention as here embodied, A represents a tie, which may be of the usual or any preferred form and preferably constructed of wood, and B is the rail used in constructing railway tracks. In the tie A may be formed a groove C, in which is placed the locking plate D, beneath the base E of the rail. The locking plate D is formed of a strip of metallic material, the ends of which are beveled from the under side toward the ends, as indicated by F and having two elongated slots G formed in the body portion thereof, the space between said slots being approximately the width of the rail base E.

Through the elongated slots G pass the spikes H, provided at the upper end of the shank I with a head J, from which projects a rail engaging portion K, which has an inclined lower face to conform to the configuration of the upper face of the rail base E. The point L of the spike is tapered as shown, and a tapered enlargement M is provided at the rear upper half of the shank, and in this is formed a notch N adapted to engage the locking plate D when the rail engaging portion is resting upon the rail base.

In practice, when the road is first being laid, grooves may be formed in the ties, in which will rest the locking plates D, but when laying a new tie in place of an old one said tie may first be laid and then the locking plate D driven into the tie beneath the rail until the elongated slots G rest one upon one side and one upon the other of the rail base. One of the spikes H is then driven into the tie through the elongated slot G, the tapering portion N of said spike moving the locking plate D about until it has passed through the slot, then said locking plate may be moved to one side until it enters the notch N in the spike. The opposite spike is then driven through the opposite elongated slot into the tie, and in doing so it compresses the wood so as to allow it to pass through the slot until the notch is opposite said slot, at which time the wood in the tie causes said slot to engage the locking plate, when all the parts will be securely locked together, and although the rail were to move up and down a considerable distance it will not have a lateral movement which would spread the rails, so that it is not necessary to have the spikes secure within the tie to prevent the spreading of the rails.

In my modified form of device as shown in Figs. 4, 5 and 6, I form extensions O with the ends of the locking plate D, and when the spikes are in position these extensions are bent upward and over the top of the spikes so that when any weight is brought to bear upon the locking plate D, such as a train passing over the rails, as the body of said plate is moved downward the ends of said plate will naturally bend upward and it would ordinarily be thought that the spikes would be drawn upward and out of the tie, but this is not the case, because as the body of the locking plate moves

downward naturally the elongated openings G are brought closer to the base of the rail, thus drawing the spikes closer to the base of the rail, causing said spikes to be drawn to some certain angle, thus preventing them from being withdrawn. The extensions O are only used as an extra precaution to prevent the spikes from being withdrawn from the ties by vibration if for any reason whatsoever the notches in the spikes become disengaged from the locking plate.

Of course I do not wish to be limited to the exact details of construction here shown, as these may be varied within the limits of the appended claims without departing from the spirit of my invention.

Having thus fully described my invention what I claim as new and useful, is—

1. The combination with a tie and a rail disposed thereon, of means to secure said rail to said tie, comprising a locking plate having slots therein and having its ends beveled from the inside upward toward the outer edges, and spikes provided with means for engaging the locking plate when said spikes have been directed through the slots and into the tie.

2. The combination with a tie and a rail disposed thereon, of means to secure said rail to said tie, comprising a locking plate having slots therein and having its ends beveled from the inside upward toward the outer edges, and spikes having notches formed in the rear portion thereof adapted to engage the locking plate when directed through the slots and into the tie.

3. The combination with a tie and a rail disposed thereon, of means to secure said rail to said tie, comprising a locking plate having slots therein and having its ends beveled from the inside upward toward the outer edges, and spikes having rail engaging portions and tapering engagements provided with notches, said notches adapted to engage the locking plate when the spikes are directed through the slots and into the tie.

4. The combination with a tie and a rail disposed thereon, of means to secure said rail to said tie, comprising a locking plate having slots therein and having its ends beveled from the inside upward toward the outer edges, and spikes, the shanks of which are provided with heads having rail engaging portions projecting therefrom, the lower ends of the shanks being tapered, and wedge shaped engagements provided with notches adapted to engage the locking plate when said spikes are directed through the slots and into the tie.

In testimony whereof, I have hereunto affixed my signature in the presence of two subscribing witnesses.

BENJAMIN BOURNE.

Witnesses:
EDW. W. ANSTICE,
S. M. GALLAGHER.