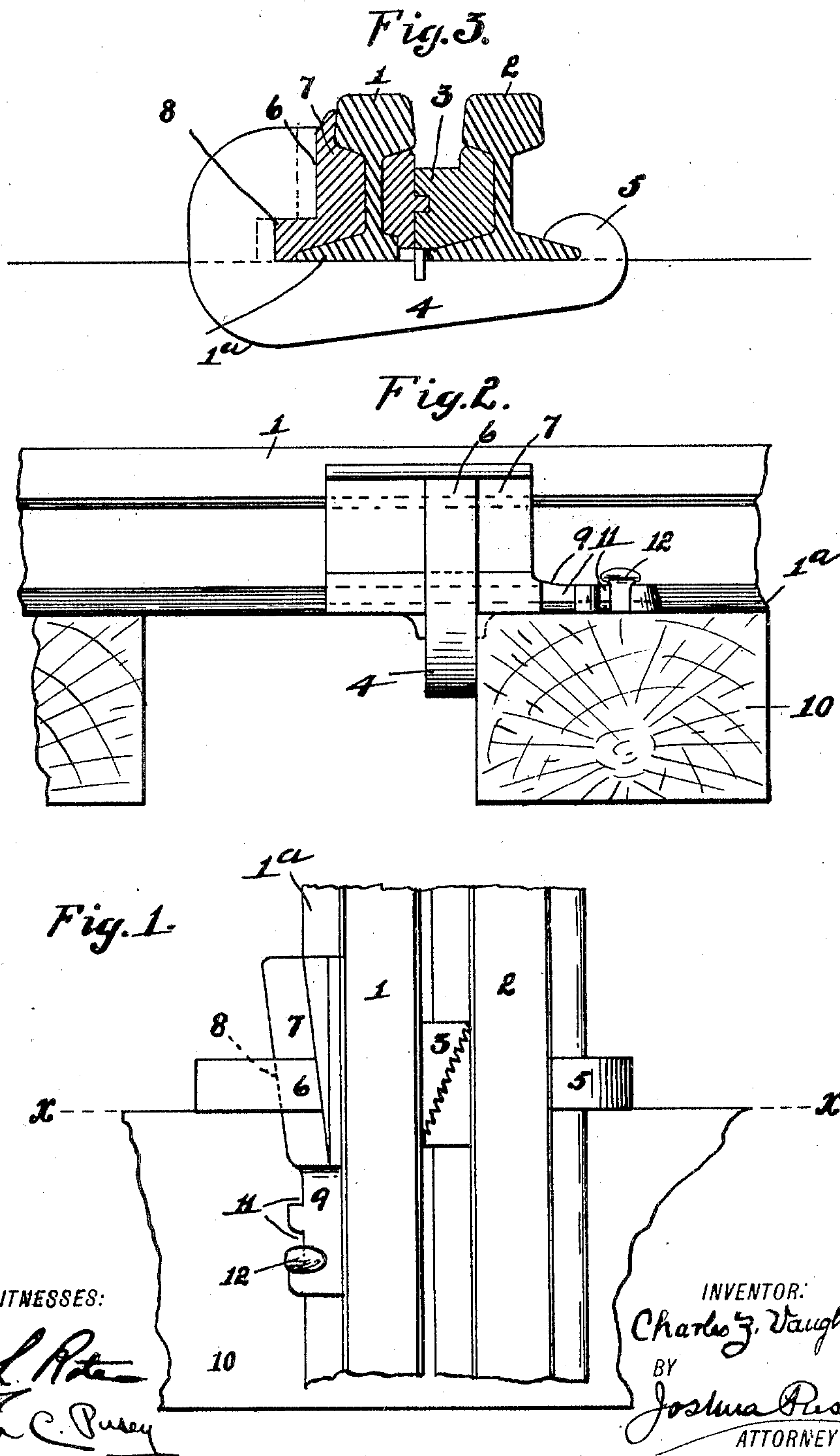


No. 789,396.

PATENTED MAY 9, 1905.

C. Z. VAUGHAN.
GUARD RAIL FASTENER.
APPLICATION FILED FEB. 27, 1905.



UNITED STATES PATENT OFFICE.

CHARLES Z. VAUGHAN, OF HADDONFIELD, NEW JERSEY.

GUARD-RAIL FASTENER.

SPECIFICATION forming part of Letters Patent No. 789,396, dated May 9, 1905.

Application filed February 27, 1905. Serial No. 247,449.

To all whom it may concern:

Be it known that I, CHARLES Z. VAUGHAN, a citizen of the United States, residing at Haddonfield, in the county of Camden and State of New Jersey, have invented certain new and useful Improvements in Guard-Rail Fasteners, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, of which—

Figure 1 is a plan view; Fig. 2, a side elevation; and Fig. 3, a section on line *xx*, Fig. 1.

This invention relates to the kind of guard-rail fasteners wherein the guard-rail is maintained in the required position with relation to the main rail of a railroad by means of a clamp-yoke embracing the two rails in connection with a wedge-key for holding the yoke in place. As is well known, the jarring action of trains passing over the tracks secured together by such fasteners not infrequently causes the said key to work loose, thereby defeating the clamping action, and sometimes it has been found that owing to the key working loose it and the yoke fall apart entirely and menace the safety of travel of that part of the railroad.

The object of my invention is to provide a construction that shall render it practically impossible for the key to work loose and also whereby the clamp-yoke cannot work loose from the key.

To this end the leading feature of the invention consists in the combination, with a suitable clamp-yoke, of a wedge-key having a part or extension that is adapted to project over a cross-tie of the railway adjacent to the fastener, to which tie the said key is adapted to be secured against longitudinal movement.

Other features of the invention relate to details of construction hereinafter described.

In the drawings, 1 is the guard-rail; 2, the track or main rail; 3, the intervening chock-block, of any usual construction; 4, the clamp-yoke, one end of which has a hook 5, adapted to take over the foot of the track-rail, and the opposite end 6 is turned up and over toward the side of the guard-rail. 7 is a wedge that is adapted to be driven in between the inner face of the end 6 of the said yoke and the rail

1, the said yoke end 6 having an inclined face corresponding to the incline of the outer side of the wedge, as seen in Fig. 1.

In order to allow the clamp-yoke to be readily placed to embrace the two rails, the base of the upturned part 6 is cut in to form a groove 8, that is adapted to receive the foot 1^a of the guard-rail, so that the yoke may be moved over longitudinally sufficiently to enable the free end of the hook 5 of the yoke to engage over the foot of the track-rail. The said groove 8 also permits the extension of the wedge, hereinafter mentioned, to pass through the same and its under surface to be in the same plane as the top of the adjacent tie.

In carrying out my invention the wedge is provided with a forward extension 9 of sufficient width to extend beyond the edge of the foot of the guard-rail, as shown, and I also provide means for securing said extension to a cross-tie 10 of the railroad—such, for example, as one or more notches or openings 11 in the outer edge of said extension, projecting laterally beyond the foot of the guard-rail, which notches are adapted to receive a spike 12 to be driven into the tie. The said wedge extension may be an integral part of the wedge, as shown, or it may be a separate part and suitably connected with or secured to the wedge proper. The inner face of the wedge is adapted to bear against the outer side of the guard-rail and is preferably made to fit against the head, web, and foot of the rail, as seen in Fig. 3. The portion of the wedge passing through the groove 8 has an inclined outer surface engaging a correspondingly-inclined inner surface of said groove 8, as seen in Fig. 1, whereby said wedge-key not only wedges against the end 6 of said yoke, but also against the inner vertical wall of the groove 8, thereby insuring a better hold between said wedge-key and said clamp-yoke, although the latter wedging-surfaces are not essential to the invention.

In assembling the parts of my invention the clamp-yoke 4 is placed in position to embrace the two rails and, for a reason hereinafter explained, the side of said yoke is preferably placed against a tie 10, toward which the

wedge-key is to be driven. The wedge is now inserted between the side of the upturned end of the clamp-yoke and the guard-rail, (the usual chock-block 3 having, of course, been first inserted between the two rails,) and after having been driven up to hold the rails, clamp-yoke, and chock-block firmly together a spike 12 is driven down into the tie through one of the notches of the extension 9, all as seen in Figs. 1 and 2. Thus the wedge-key will be retained against displacement or working loose, and if, as in the present instance, the clamp-yoke is against the side of the tie it (said yoke) is also obviously prevented from possibility of working loose from the wedge. It will also be observed that in the particular construction shown as the lower side of the wedge-key rests upon the top of the foot of the guard-rail and a portion of the extension 9 upon the top of the tie and the upper wall of the groove 8 rests upon the top of that part of the wedge-key entered therein the end of the clamp-yoke is thereby maintained in proper position and cannot drop down or escape from the wedge.

In case the wedge be constructed of a form not requiring the groove other means than that shown and described for preventing the escape or dropping down of the clamp-yoke may be employed.

I remark that while I have hereinbefore described and shown one form of my invention which I believe to be the best means for securing against longitudinal movement a wedge-key of a guard-rail fastener I do not wish to limit myself to the particular means described and shown.

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

1. In a guard-rail fastener, the combination with the guard-rail and track-rail, of the clamp-yoke, and the wedge-key, having a part adapted to be secured to a cross-tie of the railroad to prevent longitudinal displacement of said wedge-key, substantially as set forth.

2. In a guard-rail fastener, the combination with the guard-rail and track-rail, of the clamp-yoke, and the wedge-key having an extension adapted to overlie a tie of the railroad, and

means for securing said extension to said tie, substantially as set forth.

3. In a guard-rail fastener, the combination with the guard-rail and track-rail, of the clamp-yoke, and the wedge-key having the forward extension adapted to overlie a tie of a railroad, and having the side notch or notches, adapted to receive a spike for securing said wedge-key to said tie, substantially as set forth.

4. The combination of the guard-rail, track-rail, and tie, the clamp-yoke having its side against said tie, the wedge-key adapted to be secured to said tie, whereby said wedge-key and said clamp-yoke are both secured against displacement, substantially as set forth.

5. The combination of the guard-rail, the track-rail, the tie, the clamp-yoke having its side against said tie, and a wedge-key having the forward extension overlying said tie and having the lateral notches adapted to receive a spike for securing said wedge-key to said tie, substantially as set forth.

6. In a guard-rail fastener, the combination with a guard-rail and track-rail of the clamp-yoke and a wedge-key engaging said clamp-yoke and having a part adapted to be secured to a tie of the railroad to prevent longitudinal displacement of said wedge-key, together with means for preventing vertical displacement of the wedge-receiving end of the clamp-yoke, substantially as set forth.

7. A wedge-key adapted to be used with clamp-yokes of guard-rail fasteners, having means whereby said wedge-key is, when in use, adapted to be secured to a tie of the railroad, substantially as set forth.

8. A wedge-key adapted to be used with clamp-yokes of guard-rail fasteners, having a forward extension adapted, when said wedge-key is in use, to overlie a cross-tie of the railroad, and having lateral notches for the passage of spikes, substantially as set forth.

In testimony whereof I have hereunto affixed my signature.

CHARLES Z. VAUGHAN.

Witnesses:

GEO. L. ROTE,

WALTER C. PUSEY.