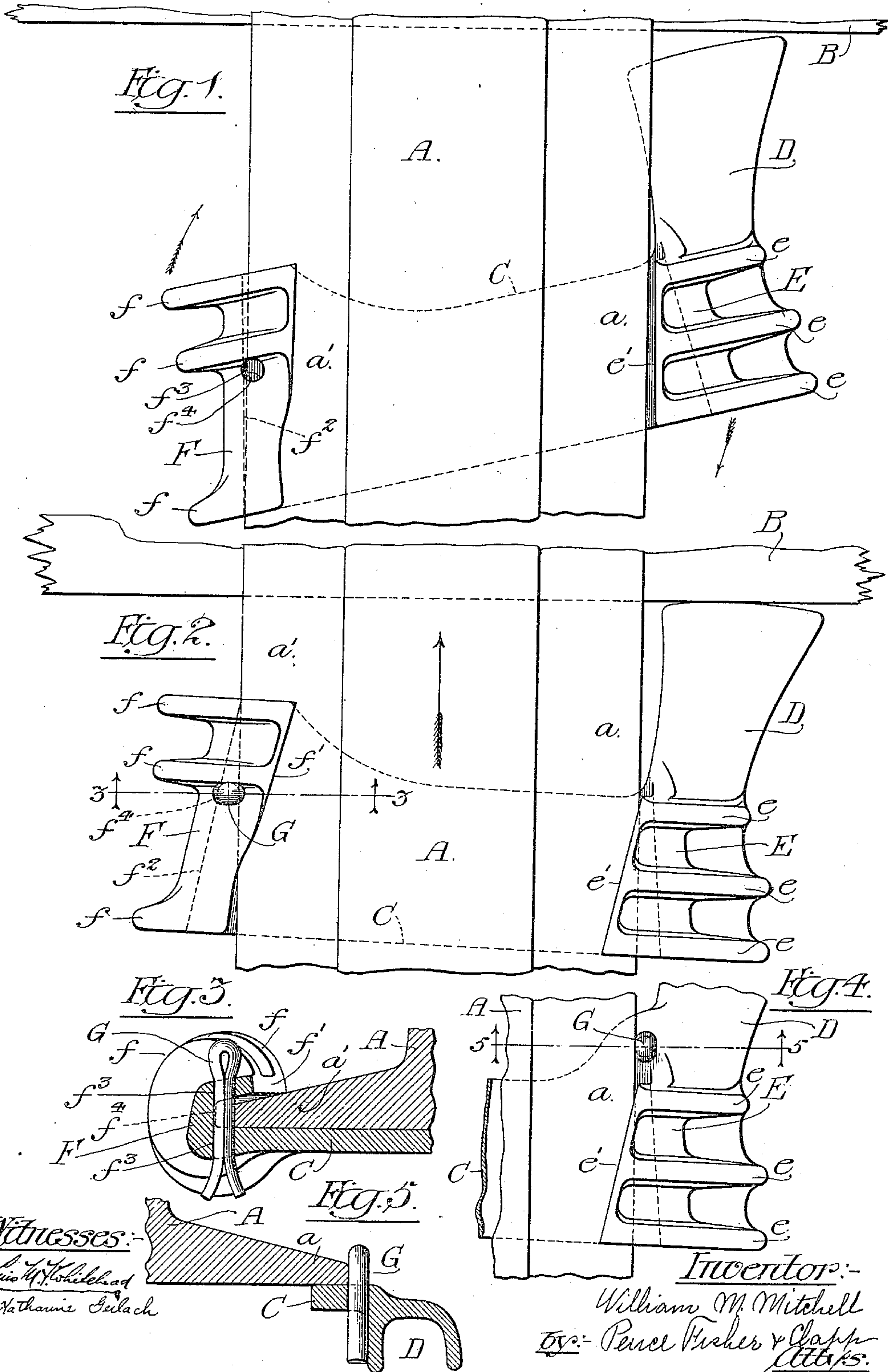


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RAIL ANCHOR.
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RAIL-ANCHOR.

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To all whom it may concern:

Be it known that I, WILLIAM M. MITCHELL, a citizen of the United States, residing at Louisville, in the county of Jefferson, State of Kentucky, have invented certain new and useful Improvements in Rail-Anchors, of which I do declare the following to be a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

The present invention has relation more particularly to that class of rail anchors designed to prevent the "creeping" of railway rails, in which there is provided a bar or plate extending beneath the rail base, such bar or plate having at its ends jaws that engage the base flanges of the rail.

The type of rail anchor to which my invention relates, is shown in Letters Patent No. 915,655, granted to Benjamin B. Betts, March 16, 1904. I wish it distinctly understood, however, that while I have shown my invention applied to a rail anchor of the particular type set forth in said Betts patent, the invention may be applied to anticreeping rail anchors or tie-plates of various other forms.

The invention consists in the features of novelty hereinafter described, illustrated in the accompanying drawings and particularly pointed out in the claims at the end of this specification.

Figure 1 is a plan view showing a rail anchor embodying my invention and showing a portion of a railway rail, the rail anchor being illustrated in the position which it has with respect to the rail as it is being applied thereto. Fig. 2 is a view similar to Fig. 1, but showing the anchor in position for use. Fig. 3 is a view in vertical section on line 3—3 of Fig. 2. Fig. 4 is a detail plan view showing the jaw of the anchor adjacent its abutment, a portion of said abutment and of the body of the anchor being also illustrated and a portion of the rail being shown in position within the jaw. Fig. 5 is a view in cross-section on line 5—5 of Fig. 4.

In the type of rail anchors to which my invention more particularly relates, the jaws that grip the base flanges at the opposite sides of the rail and which are suitably connected together, as by a bar, are so related

that when in one position they may be slipped over the base flanges of the rail and they may be turned so as to bring them into a firm wedging engagement with the rail flanges. The way in which rail anchors of this type are detached from the rail, is by moving the jaws in a reverse direction from the direction in which they are moved to cause them to wedge upon the base flanges of the rail.

The object of my invention is to provide a rail anchor of this type with improved means adapted to prevent the loosening of the rail anchor upon the rail, by reason of any such reverse movement of the jaws as may possibly occur because of the reversal of the direction of traffic over the rails, or the jarring of passing trains. I accomplish this object of the invention, in its preferred embodiment, which is that illustrated in the drawings, by providing the anchor at one, or, if desired, at more points, with a suitable pin or stop which will be placed in position after the rail anchor has been wedged tightly to its position for use upon the rail, such stop or pin serving to prevent such accidental reverse movement of the anchor as would tend to loosen or disconnect the anchor from the rail.

A designates a railway rail and B denotes a portion of one of the ties whereon the rail is supported.

As shown, the body of my improved anchor comprises a transverse bar C that is provided at one end with a downwardly and forwardly projecting arm or abutment D adapted to bear against the side of the tie B, when the rail anchor is in position to prevent the creeping of the rail in the direction of the large arrow shown in Fig. 2. At the end of the anchor, adjacent the abutment D, is a jaw E between which and the upper face of the bar C is formed a space to receive one of the base flanges *a* of the rail A, in a manner well understood by those familiar with this class of anchors. The jaw E is preferably strengthened by ribs *e* and the inner edge *e'* of the jaw E is preferably inclined, as clearly shown in Figs. 1 and 2 of the drawings. The opposite end of the anchor is shown as provided with a jaw F between which and the upper face of

the bar C is formed a space to receive the base flange a' of the rail A, and, as shown, the jaw F is strengthened or reinforced by ribs f , and has its inner edge formed upon an incline f' corresponding in the main to the incline of the edge e' of the opposite jaw E.

The precise shape of the jaws E and F is not essential to my present invention, but, as will be seen from Figs. 1, 2 and 3 of the drawings, the jaws E and F and the cavities or spaces beneath them are so shaped as to permit the anchor to be readily placed in position upon the rail. This placing of the anchor in position for use upon the rail is accomplished by passing the anchor beneath the rail at a point between two ties and then moving the jaw F over the base flange a' of the rail until the outer edge of this flange a' is parallel and adjacent to the outer wall f^2 of the cavity beneath the jaw F, at which time the outer edge of the rail flange a will be parallel to and closely approximate the inclined edge e of the jaw E. The jaw E is then raised until it comes slightly above the base flange a and the anchor is then turned pivotally in the direction of the curved arrows, Fig. 1, until the jaws E and F tightly wedge upon the base flanges a and a' of the rail A. At such time, the free end of the arm or abutment D is brought to bear against the side of the tie B and the anchor will then be in the position for use as shown in Fig. 2 of the drawings. It is obvious that after the anchor has been thus applied to the rail, (and the manner of applying the anchor thus briefly outlined will be readily understood by those familiar with this class of devices) the only way in which the anchor can be loosened on or removed from the rail will be by turning the anchor in a direction the reverse of that indicated by the curved arrows in Fig. 1. In order to prevent any such accidental reverse turning of the anchor, incident to the reversal of traffic over the rails or to the jarring of the trains, and, as well also, to render difficult any mischievous loosening of the anchors, I provide my improved anchor at one or more points with a suitable pin or stop G that is formed separate from the anchor and is so located as to guard against such reverse movement of the anchor as would result in a loosening of the anchor on the rail.

The pin or stop G may be located at either end of the anchor and at any position in which it will serve to prevent such reverse turning movement of the anchor as would tend to loosen its engagement with the rail flanges. In Figs. 2 and 3 of the drawings, the stop or pin G is shown as passing through the jaw F and the end portion of the bar C, a suitable hole f^3 being formed for this purpose. Preferably, the outer wall of the hole f^3 through which the pin G passes

cuts slightly into the outer wall of the cavity beneath the jaw F, as shown by the dotted lines f^4 in Figs. 2 and 3, as by this arrangement a firmer bearing for the pin against the outer portion of the jaw is secured. The pin or stop G may be of any suitable form, (a simple cotter pin being shown) since, when it is placed in position for use and its lower ends are spread apart, the accidental or mischievous loosening of the pin is avoided. It will be understood, of course, that the pin or stop G will not be applied to the anchor until the anchor has been brought to the position for use as shown in Fig. 2 of the drawings, after which the pin or stop G will be forced down through the hole f^3 , as shown in Figs. 2 and 3. Inasmuch as the pin G fills the space between the outer wall f^2 of the cavity beneath the jaw F and the outer edge of the rail base flange a' , it is obvious that so long as the pin or stop remains in position the reverse turning of the anchor, necessary to loosen it, cannot be effected either by accident or design. If, however, it is desired to remove the anchor, the pin or stop G may be withdrawn from the hole f^3 , after which, by striking the inner end of the jaw F with a hammer, it may be loosened in manner well understood by those familiar with this class of devices. When the lower ends g of the pin or stop G have been spread apart, they will not only prevent the working loose of the pin, but, being below the bar C, they are in such position as to guard against the mischievous withdrawal of the pin.

In Figs. 4 and 5 of the drawings, I have shown the stop or pin G as placed within a hole or opening adjacent one end of the jaw E, and it will be readily understood that when the pin or stop is in the position for use shown by such figures, the reverse turning of the anchor necessary to loosen it cannot be effected.

As, obviously, pins or stops G might be employed at both ends of the anchor, I have not deemed it necessary to illustrate this in the drawings.

It will be readily understood that the precise details of the anchor may be varied, and that the precise construction and location of the stop or pin above described may also be varied without departure from the spirit of the invention.

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

1. A rail anchor having jaws adapted to turn in one direction to clamp the base of the rail and a separable stop arranged to engage the rail and limit the reverse movement of said anchor.

2. A rail anchor comprising jaws adapted to engage the base flanges of a rail, said anchor having a hole formed therein and a

stop within said hole and serving, while in position, to engage the rail and prevent the withdrawal of the anchor from the rail.

3. A rail anchor comprising jaws adapted to engage the base flanges of a rail, said anchor having a vertical hole therein adjacent one of its ends and a stop within said hole and serving, while in position for use, to engage the rail and prevent the withdrawal of the anchor from the rail.

4. A rail anchor comprising jaws adapted to engage the base flanges of a rail, said anchor having a vertical hole therein adjacent one of its ends and a stop within said hole and serving, while in position for use, to prevent the withdrawal of the anchor from the rail, said stop extending through the anchor and being provided at its lower end with means to guard against the easy withdrawal of the stop.

5. A rail anchor comprising jaws adapted to engage the base flanges of a rail, said anchor having a vertical hole therein adjacent one of its ends and a stop within said hole and serving, while in position for use, to prevent the withdrawal of the anchor from the rail,

said stop consisting of a cotter pin extending through the anchor with its lower ends exposed to be bent.

6. A rail anchor of the character described, comprising a portion adapted to extend beneath the base of a rail, jaws at its ends to engage the base flanges of the rail and an abutment at one end to bear against a tie, said anchor being provided adjacent one of its ends with a hole, and a stop or pin within said hole and arranged to bear against the rail flange to hold the anchor in proper position on the rail.

7. A rail anchor of the character described, comprising a bar adapted to extend beneath a rail and having jaws at its ends to engage the base flanges of the rail and having an abutment to engage a tie and formed with a vertically disposed hole near one of its ends, and a stop or pin within said hole and arranged to bear against the outer edge of the rail base flange.

WILLIAM M. MITCHELL.

Witnesses:

H. O. WIELAND,
G. W. MANN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
