P. W. MOORE.

INTERLOCKING RAIL ANCHOR.

APPLICATION FILED APR. 5, 1911.

1,063,825.

Patented June 3, 1913.

Fig. 2.

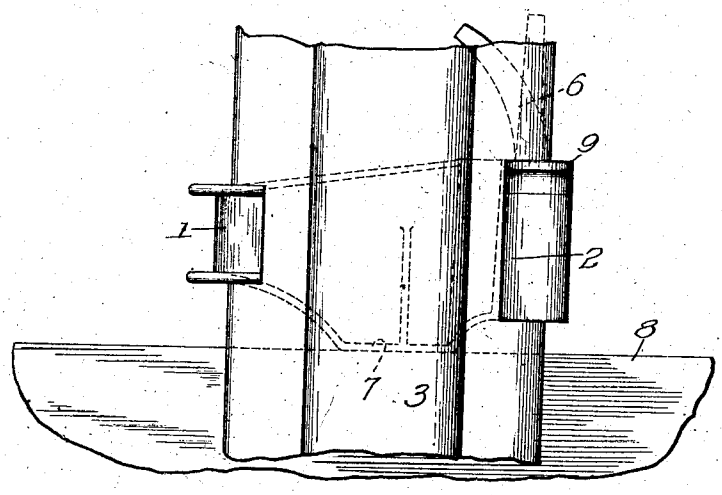


Fig. 1.

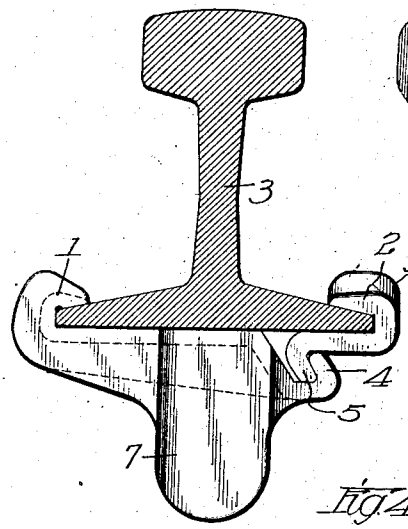


Fig. 3.

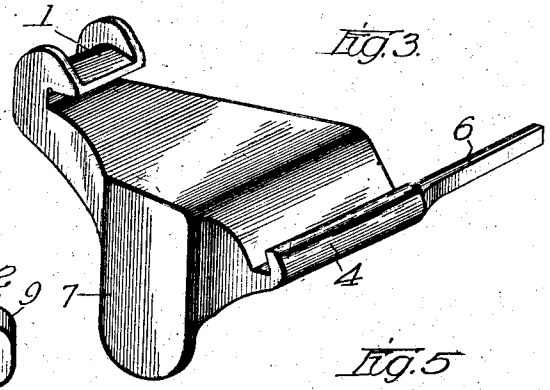


Fig. 4.

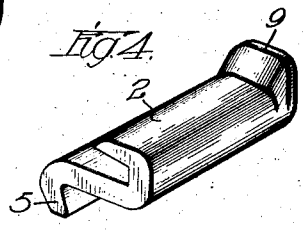
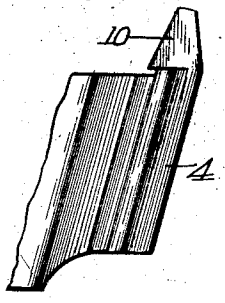


Fig. 5.



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UNITED STATES PATENT OFFICE.

PHILIP W. MOORE, OF EVANSTON, ILLINOIS, ASSIGNOR TO THE P. & M. CO., OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

INTERLOCKING RAIL-ANCHOR.

1,063,825. Specification of Letters Patent. Patented June 3, 1913.

Application filed April 5, 1911. Serial No. 619,080.

To all whom it may concern:

Be it known that I, PHILIP W. MOORE, a citizen of the United States, residing at Evanston, in the county of Cook and State of Illinois, have invented new and useful Improvements in Interlocking Rail-Anchors, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawing, forming a part of this specification.

My invention relates to rail anchors.

One of the objects of my invention is to provide a rail anchor which will effectively grip the rail base and will tend to increase its grip thereon upon any tendency of the rail to creep.

Another object is to provide a rail anchor comprising separable parts which have an interlocking engagement under the rail adjacent one side of the rail base whereby the interlocking portions are readily accessible and whereby the rail anchor may be more readily applied to the rail base.

A further object is to provide a frictional gripping device having means for preventing the loosening or disengaging of its cooperating parts due to vibration and to a lessening of the pressure which tends to maintain said parts in close wedging engagement.

An additional object is to provide a two-part rail anchor with a guiding projection or tongue by which one part may be readily guided into wedging engagement with the other part.

The accompanying drawings illustrate a simple and practical embodiment of my invention.

In the drawings:—Figure 1 is an elevation of the rail anchor secured to a rail base in assembled position. Fig. 2 is a top plan view of a rail having the anchor secured thereto and showing the relation of the parts with respect to the adjacent cross-tie. Figs. 3 and 4 are perspective views of the two respective detached parts of the anchor. Fig. 5 is a modification of a detail.

The form of rail anchor illustrated comprises two members, the larger of which may be called the clip and the smaller of which may be called the mate. The clip is provided with a rail-base-engaging jaw 1 and the mate is provided with a somewhat similar jaw 2. The clip and the mate have an interlocking wedging engagement under the rail 3 by virtue of the under-cut wall or jaw 4 on the clip which coöperates with the corresponding under-cut wall or rib 5 on the mate and by virtue of the diagonal arrangement of these engaging walls with respect to the length of the rail when in assembled position (see Fig. 2). The under-cut walls exert pressure on each other in substantially a horizontal direction, the pressure in each case resolving itself into two forces, one normal to the slanting surface and one parallel thereto, the latter force impels one member upwardly and the other member downwardly thereby insuring a firm interlocking of said members. As a result of the said diagonal movement a relative longitudinal movement of the clip and the mate in the proper direction results in drawing the jaws 1 and 2 closer together. The clip member in the form illustrated in Fig. 3, is provided with an extension or tongue 6 and with a downwardly extending flange 7 adapted to abut against the side of an adjacent cross-tie 8 when the rail-anchor is applied to a rail. The mate is substantially S shaped in cross-section and is provided at one end preferably with a flange or wall 9 against which hammer blows may be directed when driving the mate into firm wedging engagement with the clip. The clip is constructed preferably of malleable iron or other suitable material whereby the extension 6 may be bent to a considerable angle from its normal position without danger of breaking it off. The mate may be also constructed of malleable iron or it may be made as a drop forging, or it may be made in other ways.

The anchor is applied to a rail by first slipping the jaw 1 of the clip member over one edge of the rail base and then driving the jaw firmly on to said rail base with the flange portion of the clip member near or preferably bearing against the cross-tie as shown in Fig. 2. The mate is then applied to the opposite side of the rail base at some distance from the tie and is slipped loosely along the rail base toward the tie, the extension 6 coöperating with the downwardly extending under-cut rib or jaw 5 and thereby guiding the mate into wedging engagement with the clip member. The mate is then driven toward the tie by striking against the extension 9, whereupon both members are drawn into firm interlocking

wedging engagement beneath the rail and whereby the opposite jaws 1 and 2 firmly grip the rail base between them.

With the wedging surfaces of the two parts of the rail anchor located near one side of the rail base, the application of the rail anchor to the rail is facilitated, as the clip member may be readily applied to the guiding tongue in a position where it is easily accessible. If the design were such that the wedging engagement took place under the middle of the rail, it would be necessary to scrape out considerable ballast from beneath the rail before applying the two interlocking members and it would be more difficult to insure a satisfactory engagement of the wedging surfaces.

After the clip and mate have been assembled in firm interlocking wedging engagement as explained above with the flange of the clip member bearing against the adjacent tie, the extension or tongue 6 may be bent from its normal position by hammer blows whereby a return movement of the mate and consequent loosening of the parts is prevented. It is apparent that the clip and the mate may be locked in any position which they may happen to assume of relative adjustment longitudinally with respect to the rail when in assembled position. Upon any tendency of the rail to creep it is apparent the tendency of the mate and clip will be to cause an increased wedging action and an increased grip on the rail base. When the rail moves to the rear slightly as sometimes happens, owing to a contraction thereof due to cold, or owing to other causes, the pressure of the downwardly extending flange of the clip member against the tie is relaxed. The rail anchor as a whole may even be withdrawn from immediate contact with the tie. Under these circumstances, however, the clip and the mate maintain their effective grip on the rail base and move as a unit with the rail. Owing to the positive locking means which maintains the parts in the most effective position of longitudinal adjustment with respect to each other, they cannot move relatively in a direction to decrease the wedging action and relax their grip. Consequently if the rail again moves forward until the anchor abuts against the tie, further forward movement is effectively prevented. Said parts are not locked against further movement in a direction to increase the wedging engagement, however, except in so far as they may already be in their most effective wedging position relatively to each other.

In Fig. 5 a modified form of locking device is illustrated in which the extension 10 of the wall or rib 4 has the general form of a jaw or hook. This extension aids in guiding the mate into wedging engagement with the clip and as the mate is being driven home, into a firm interlocking engagement with the clip when the parts are being assembled said jaw 10 snaps over the rear end of said mate and effectively locks the same against return movement.

It is apparent that the invention is not to be limited to the two forms of rail anchor described, nor to the details of said forms as all of the above were selected for the purpose of illustration only. Furthermore the features of the invention are applicable to other uses than the ones suggested herein. I desire therefore to cover broadly any suitable means which accomplish the desired results, and which fall within the scope of the appended claims.

What I claim as my invention and desire to secure by Letters Patent of the United States is:—

1. A rail anchor comprising two members each provided with a jaw adapted to grip one side of a rail base and each provided with a diagonally disposed wall adapted to coöperate with the corresponding wall of the other member to effect a wedging engagement of said members beneath the rail base, the wall of one of said members being extended beyond the main body-portion of said member to guide said other member into normal coöperating position when said parts are being assembled on the rail.

2. A rail anchor comprising two jaw-carrying members having walls which normally engage beneath the rail base to prevent separation of said members along a line substantially transverse to the length of the rail, said walls being arranged at a slight angle with respect to the length of said rail, whereby relative sliding motion of one member with respect to the other will cause said jaws to grip the opposite sides of the rail base more firmly between them, one of said walls being extended to guide said members into proper wedging engagement with each other.

3. A rail anchor comprising two members having sliding engagement beneath the base of a rail along a line slightly diagonal with respect to the length of said rail, one of said members having a projecting portion adapted to guide the other member into proper wedging engagement with said first member and adapted to prevent the return of said other member and consequent loosening of said wedging engagement.

4. A rail anchor comprising a clip member and a mate having engaging walls diagonally disposed beneath a rail base adjacent one side of said base, said clip member having a rearwardly extending projection adapted to guide the engaging wall of said mate into proper engagement with the corresponding wall of said clip member, said projection being further adapted to prevent the withdrawal of said mate.

5. A rail anchor comprising a clip and a mate having interlocking wedging engagement beneath a rail base, said clip having a jaw for engaging the rail base and having a downwardly extending portion adapted to bear against the side of a tie, and having also a rearwardly extending locking projection adapted to coöperate with said mate.

6. An anti-creeper composed of two pieces, each having a jaw adapted to receive one side of a rail base, one piece having a channel extending somewhat diagonally with respect to the longitudinal axis of the rail and adapted to receive a portion of the other of said pieces, said other piece having an extension for engaging within the channel of said first piece, and a flexible lug integral with one of said pieces, and adapted to be bent into engagement with the other of said pieces to lock the parts together.

7. A rail anchor comprising a clip member and a mate, having engaging walls diagonally disposed beneath a rail base, said clip member having a rearwardly extending projection adapted to prevent the withdrawal of said mate after the parts have been assembled.

8. A rail anchor comprising a clip and a mate having wedging engagement beneath a rail base, said clip having a jaw for engaging the rail base and having a downwardly extending portion adapted to bear against the side of a tie, and having also a rearwardly extending locking projection adapted to coöperate with said mate.

9. An anti-creeper composed of two pieces each having a jaw adapted to receive one side of a rail base, one piece having a channel, a wall of which extends somewhat diagonally with respect to the longitudinal axis of the rail, said channel being adapted to receive an extension on the other of said pieces, said extension having also a diagonally arranged wall adapted to bear against said first diagonal wall, one of said pieces having a flexible lug integral therewith, adapted to be bent so as to obstruct the return movement of the other of said pieces.

10. A rail anti-creeper consisting of two members, each provided with a jaw adapted to receive one side of the rail base, said members being relatively movable in a direction substantially parallel to the rail, and having abutting faces arranged somewhat diagonally and adapted for sliding contact, whereby a relative movement of said members longitudinally will cause a transverse relative movement of said jaws to grip the rail base firmly, one of said members having a rearwardly extending projection adapted to be bent transversely across the rear of said other member to maintain said members in finally adjusted position.

11. An anti-creeper for rails comprising a plurality of members relatively movable toward and away from a cross-tie to vary the effectiveness of the grip of the anti-creeper on the rail base, two of said members engaging each other beneath and near one side of the rail base, one of the engaging parts carrying an extension arranged at the side near the engaging surfaces and adapted to be deflected under the rail base to coöperate with the other engaging part and lock the same.

12. An anti-creeper for rails comprising two parts having sliding engagement beneath a rail base and adjacent to one edge thereof, and manually operated locking means therefor also beneath said rail base and adjacent to one edge thereof, whereby said locking means is readily accessible.

In witness whereof, I have hereunto subscribed my name in the presence of two witnesses.

PHILIP W. MOORE.

Witnesses:
E. R. KING,
GEO. B. JONES.

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