July 28, 1942. H. M. ALDERMAN 2,291,181

CAR REPLACER FASTENING DEVICE

Filed Oct. 6, 1941

Fig. 1

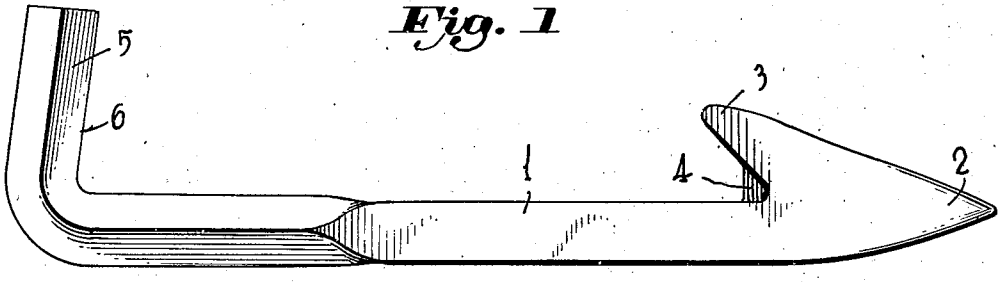


Fig. 2

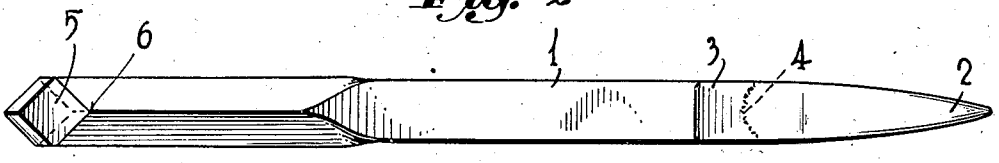


Fig. 3

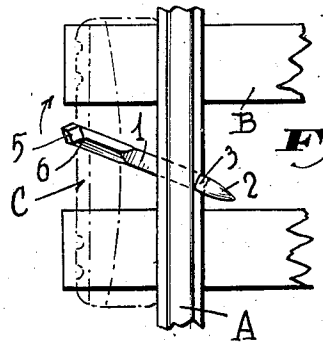


Fig. 5

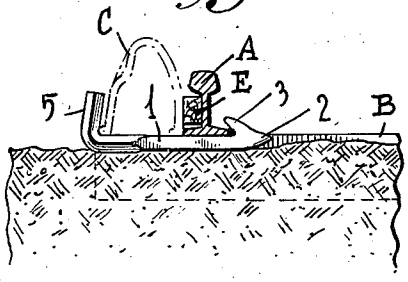


Fig. 4

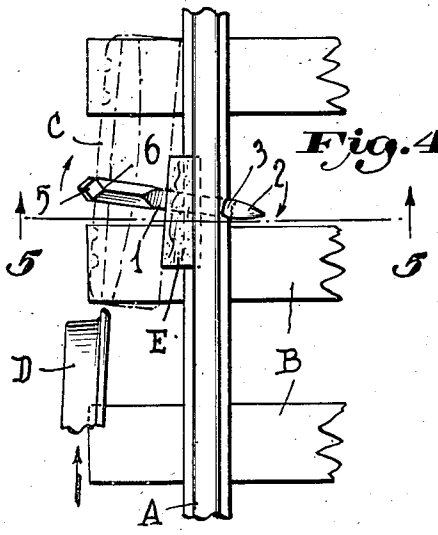
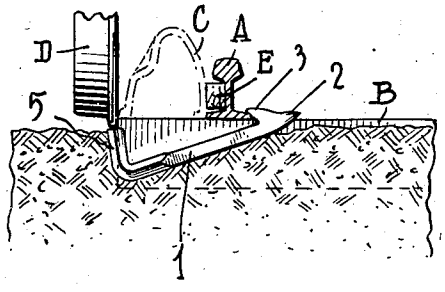


Fig. 6



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Patented July 28, 1942

2,291,181

UNITED STATES PATENT OFFICE

2,291,181

CAR REPLACER FASTENING DEVICE

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Application October 6, 1941, Serial No. 413,875

2 Claims. (Cl. 104—274)

This invention relates to car replacers and more particularly to a fastening device to be used for the purpose of securing a car replacer to a track rail.

Owing to the fact that railroad cars frequently become derailed in one way or another, especially in and around station yards, it is customary to carry on all trains one or more so-called car replacers. These are devices in the nature of a ramp or block having inclined ends, which devices are adapted to be laid alongside a rail for the purpose of guiding a derailed wheel up onto the track again.

The usual method of fastening these car replacers in position, when it is necessary to use them, is to fasten them to the ties by means of spikes. It has been found in practice, however, that this method of securing the car replacers is extremely unsatisfactory for the reason that, owing to the tremendous strains to which they are subjected, they frequently break loose when engaged by a derailed wheel, with the result that such wheel, instead of riding back upon the rail as intended, drags along the ties for a substantial distance, thus often doing considerable damage.

The general object of the present invention is to provide improved means for fastening or anchoring such a car replacer in position, so that it will remain securely in position while the wheel rides up along it, without danger of breaking loose.

A further object is to provide a fastening device of this character which shall be simple in construction and may be readily and quickly applied when required, without the use of spikes or bolts.

A still further object is to provide a fastening device of the type referred to so constructed that the greater the strain imposed upon it, the tighter it will hold.

In order that the invention may be readily understood, reference is had to the accompanying drawing, forming part of this specification, and in which:

Fig. 1 is a side elevation of my improved fastening device;

Fig. 2 is a plan view thereof;

Figs. 3 and 4 are plan views on a reduced scale, showing a car replacer in dotted lines and illustrating different methods in which my improved fastening device may be used for securing such a car replacer in position;

Fig. 5 is a transverse section substantially on the line 5—5 of Fig. 4, looking in the direction of the arrows; and

Fig. 6 is a similar view illustrating the effect of a car wheel on the fastening device.

Referring to the drawing in detail, A designates a railroad rail and B the usual ties to which it is secured.

C designates any usual or desired form of car replacer, but since the exact construction of such replacer forms no part of my invention, I have illustrated in dotted lines only a conventional form for the purpose of showing its relation to the railroad rail and to my improved fastening device.

Referring more particularly to Figs. 1 and 2, my improved fastener comprises a rigid bar 1 having one end preferably pointed as shown at 2 and provided with an angularly disposed jaw 3 adapted to engage over the base flange of the rail A, as shown in Fig. 5.

The car replacer C usually rests upon the ties as shown in Figs. 3 and 5, and my improved fastener extends underneath both the rail and the replacer, between the ties.

At its other end, the bar 1 is provided with an upstanding portion 5 adapted to engage the outer side of the car replacer C as shown in Fig. 5. Instead of being at exactly right angles to the body of the bar 1, this upstanding portion 5 is preferably inclined slightly thereto, so as to be disposed at an acute angle, as clearly shown in Fig. 1.

It has heretofore been proposed to fasten a car replacer to the rail by means of a clamp extending underneath the rail, and engaging both the rail flange and the side of the car replacer, but in all such cases of which I am aware, the portion of the clamp bearing against the car replacer has been provided with an ordinary flat face, and the clamp has extended at right angles to the rail.

In my improved construction, however, I provide the upstanding portion of my fastening device with a sharp edge which is adapted to engage and bite into the outer side of the car replacer, in such a manner as to prevent slipping. This can be conveniently accomplished, as shown in the drawing, by making the upstanding portion 5 of polygonal section such, for example, as square, the section being disposed diagonally with respect to the axis of the bar 1 so that a wedge-shaped face providing a corner or sharp edge 6 is presented on the inner side of the portion 5. While a square section has been illustrated, it is obvious a triangular or other section could like-

wise be employed, but whatever the exact shape of the section, it is preferable that the sharp edge, such as 6, be arranged near the center of the upstanding portion 5.

Likewise, the portion of my improved fastening device which engages the rail flange is preferably provided with means for biting into the edge of such flange so as to prevent slipping. This can effectively be accomplished by providing the engaging surface with one or more substantially vertical sharp ridges 4. Preferably, the corner of the angle between the jaw 3 and the body of the bar is of convex form when viewed in plan and is serrated throughout its length so as to provide a series of substantially vertical teeth or ridges. A single central knife edge or ridge may, however, be employed, if desired.

In Fig. 3, I have shown the car replacer C as lying with its inner side in contact with the rail and with my improved fastening device extending underneath and embracing the rail and car replacer as above described. The distance between the engaging ridges 4 and 6 is preferably somewhat greater than the combined width of the rail base and car replacer so that my improved fastening device may be easily and loosely applied, when in a position extending substantially at right angles to the rail. A slight longitudinal shifting of the car replacer will then cause the fastening device to swing into an angular or inclined position as shown in Fig. 3, thus tightly binding the parts together. In other words, the ridges 4 and 6, bearing against and biting into the rail car replacer, respectively, constitute pivots about which the fastening device may swing into an angular position.

Assuming that the derailed wheel D is moving in the direction of the arrow in Fig. 4, it will be obvious that the greater the endwise thrust exerted against the car replacer by such wheel, the tighter will my improved fastening device bind the replacer to the rail, this being due to the slight angular position of the fastener, and to the fact that the sharp ridges prevent its slipping with respect to either the rail or the fastener.

While in Fig. 3 I have shown the car replacer as lying in contact with the rail, I have illustrated in Fig. 4 a slightly different arrangement. In this latter arrangement, the car replacer is disposed at a slight angle to the rail and is spaced therefrom at one end by means of a block E which may conveniently take the form of a wooden wedge. In this case also, however, it will be seen that my improved fastening device is disposed at a slight angle to the rail and the same binding action will result from the application of endwise thrust to the car replacer. Thus, my improved fastening device is applicable to many different forms, sizes and arrangements of car replacers, whether applied with or without spacing blocks or wedges, the particular method of application being determined by the particular type of car replacer employed.

Referring again to Figs. 1 and 5, it will be seen that the lower face of the jaw 3 is disposed at an angle to the horizontal much greater than the angle of the base flange of the rail, so that when the fastener is applied, a substantial amount of space is provided between the jaw and the upper surface of the rail flange.

The purpose of this is well illustrated by Fig. 6. As shown in this figure, it sometimes happens that the derailed wheel may fail to properly ride up the car replacer as intended, but may slip down along the outer side thereof. When this happens, it is likely to engage the upper end of the upstanding portion 5 of the fastener and force it down into the position shown in Fig. 6. The clearance between the jaw 3 and the upper surface of the rail flange thus permits the fastener to swing down into the position shown in Fig. 6 without bending or breaking, as would be the case if the jaw fit the rail flange snugly.

What I claim is:

1. A fastening device for securing car replacers to a rail comprising a rigid bar adapted to extend underneath both the replacer and the rail to which it is secured, said bar having at one end an angularly disposed jaw adapted to engage over the edge of a rail flange, and at its other end an upstanding portion adapted to engage the outer side of a car replacer, the angle of said jaw being substantially greater than that of the rail flange, whereby sufficient space is provided between said jaw and the upper surface of the rail flange to permit the other end of said bar to swing freely downwardly around the edge of the rail as a pivot, if depressed by engagement of a car wheel therewith.

2. A fastening device for securing car replacers to a rail comprising a rigid bar adapted to extend underneath both the replacer and the rail to which it is secured, said bar having at one end a rail engaging portion and at the other end an upstanding portion adapted to engage the outer side of a car replacer, said upstanding portion being of polygonal section and having at its inner side a wedge-shaped face providing a sharp centrally disposed knife edge adapted to bite into the car replacer, said edge constituting a pivot about which said bar may swing into a position at an acute angle to the rail.

HARRY M. ALDERMAN.