B. WOLHAUPTER.

RAIL ANCHOR.

APPLICATION FILED JUNE 6, 1917.

1,292,554. Patented Jan. 28, 1919.

Fig. 1.

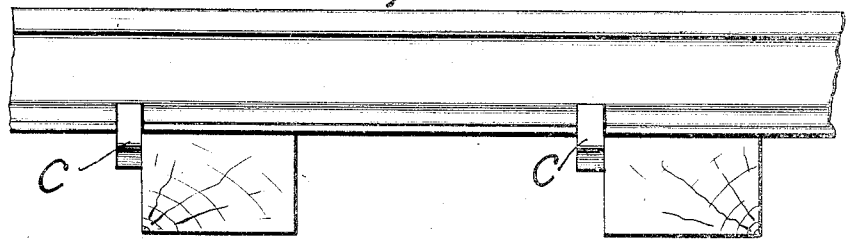


Fig. 2.

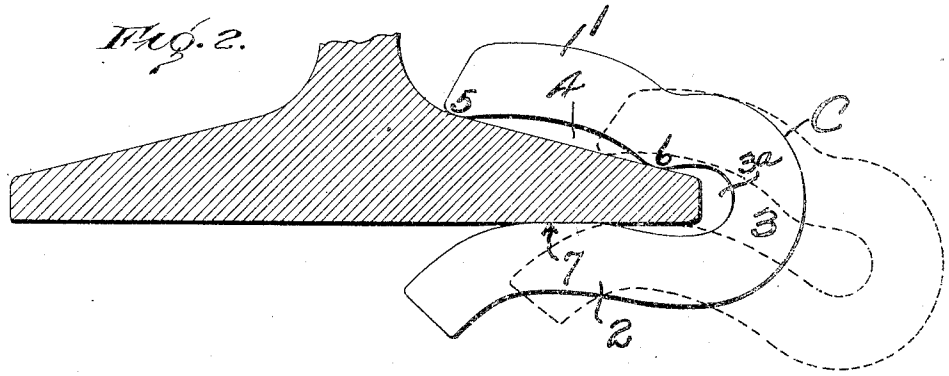


Fig. 3.

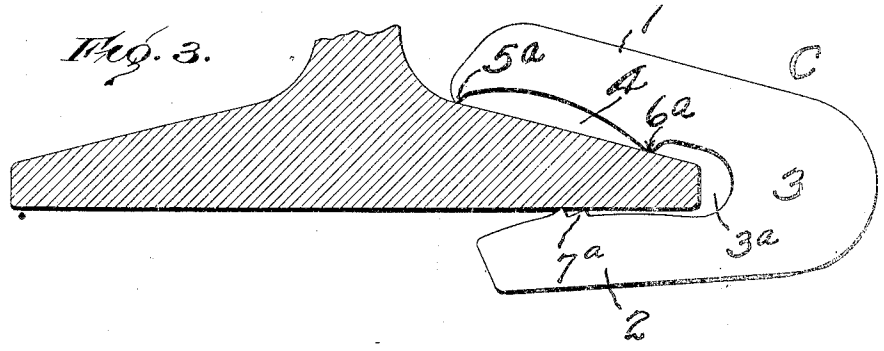
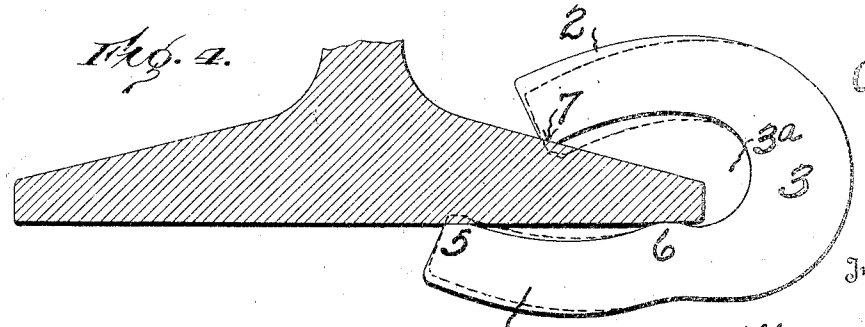


Fig. 4.



Inventor

BENJAMIN WOLHAUPTER

By

Attorney

UNITED STATES PATENT OFFICE.

BENJAMIN WOLHAUPTER, OF NEW ROCHELLE, NEW YORK.

RAIL-ANCHOR.

1,292,554. Specification of Letters Patent. Patented Jan. 28, 1919.

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To all whom it may concern:

Be it known that I, BENJAMIN WOLHAUPTER, a citizen of the United States, residing at New Rochelle, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Rail-Anchors, of which the following is a specification.

This invention relates to devices for preventing the creeping of railroad rails, and has for its object a device of this character which will satisfactorily respond to manufacturing and engineering requirements.

It is of practical importance in the construction of a rail anchor or anti-creeper to produce a device that is not only effective for the purpose, but which may be economically manufactured by conventional processes and which may be employed with the ordinary track equipment. The present invention has these desirable characteristics and features, and also has in view a simple and novel form of construction which is readily applicable to rails of different size, and which will remain operative and effective at all times regardless of the conditions of load and temperature changes to which the rail is subjected.

A further object of the invention is to provide a rail anchor utilizing a small amount of metal in its manufacture, and also being of a form that permits the same to be made by a rolling operation in the passes of a rolling mill, thus facilitating not only economical but also rapid manufacture of the device.

Another object of the invention is to provide a rail anchor device having no working or movable parts of any character, but simply consisting of a single unit of construction having a clamping and biting engagement upon the rail flange and coöperating with a tie as an abutment. Also the invention contemplates a rail anchor or creep-check which may be applied to the rail by the simple act of driving the same onto the rail flange by a maul or similar implement.

With these and other objects in view which will readily appear to those familiar with the art as the characteristic features of the invention are better understood, the latter consists of a resilient rail clip having the novel features of improvement hereinafter fully pointed out, and illustrated in the drawings.

The distinctive and necessary features of the improved rail clip are susceptible of structural modification without departing from the spirit or scope of the invention, but certain preferred and practical embodiments thereof are shown in the accompanying drawings, in which:

Figure 1 is a general view illustrating a rail having applied thereto rail anchoring clips, in accordance with the present invention, and coöperating with the ties of the road bed.

Fig. 2 is a detail view of a cross section of the base of the rail illustrating the application of the improved clip thereto indicating by dotted lines the clip in its contracted initial form about to be forcibly driven onto the rail flange.

Fig. 3 is a similar view illustrating a modified construction of the clip.

Fig. 4 is a similar view illustrating the reversibility of the clip, and a modified form.

Like references designate corresponding parts of the several figures of the drawings.

The improved rail anchor or creeper-check constituting the present invention primarily consists of a resilient clip C constructed of a single piece of metal made in a substantially V-form, thus producing a device having upper and lower divergently related members 1 and 2 integrally connected at one end by the fold or bight 3. By reason of the divergent disposition of the upper and lower members 1 and 2 of the clip there is provided between such members a tapered flange receiving pocket or space 4, which receives the tapered flange of the rail, as will be apparent, upon inspection of the drawings. The device in its applied position is adapted to bear against a fixed abutment such as the rail tie.

A distinctive feature of the invention is the resilient characteristic of the clip, and its spring clamping action upon the rail flange. Accordingly, it is proposed to make the clip of high-carbon steel suitably tempered so as to provide and maintain the spring action thereof. It will therefore be seen that an important feature of the invention is the provision of a resilient rail

clip whose opposite members 1 and 2 constitute spring clamping jaws which are intended to have a direct gripping or biting engagement with both the upper and lower surfaces of the rail flange.

In carrying forward the invention the manner of providing for the hard and firm gripping or biting engagement of the rail anchor with the rail flange may be accomplished in different ways. One practical and effective means for attaining this result is shown in Fig. 2 of the drawing wherein the upper jaw or member 1 of the clip is illustrated as having a bowed portion 4 provided at approximately the terminals of the arc or bow with the projecting gripping toes 5 and 6 adapted to engage the surface of the rail flange at spaced points. Also in the construction referred to the opposite jaw or member 2 may be given a curved formation so as to conveniently provide the same with an intermediately located grippinig projection 7, which preferably lies opposite that part of the member between the gripping projections or toes 5 and 6.

By way of illustrating the range of modification that may be resorted to in providing the gripping or biting elements of the spring clamping jaws of the clip, reference is made to Fig. 3 of the drawings. In this figure of the drawings all of the essential features of the clip above referred to are preserved and there is shown a construction wherein the gripping or biting elements 5^a, 6^a, and 7^a may be in the form of comparatively sharp teeth or points which will actually bite into the metal of the rail flange and effectually secure the clip against possibility of displacement after having once been applied.

Obviously, various other forms of gripping or biting elements could be provided on the spring clamping jaws of the clip, without in any way departing from the spirit or scope of the invention, and it is therefore believed that the illustrations given by the figures of the drawings are sufficient to give a clear understanding of these features of the invention.

In the manufacture of the improved anchor or creeper-check it will be understood, particularly by reference to Fig. 2 of the drawings, that in its normal and initial condition the rail clip is contracted or "closed", that is with its opposite jaws unexpanded and closer together than the thicker part of the rail flange. To apply the device, it is simply necessary to slip the same over the outer edge of the rail flange, thus bringing one jaw above the rail flange and one jaw below the rail flange, after which the trackman, by means of a maul or driving implement will forcibly drive the clip inwardly upon the tapering rail flange. This driving-on operation causes a distortion or opening up of the resilient clip as the upper jaw rides inwardly and upwardly over the top surface of the rail flange. At the same time there will be a tendency of the bowed portion 4 of the clip to flatten out more or less under the opening pressure of the inclined upper surface of the rail flange thereby resulting in increasing the biting engagement of the elements 5 and 6 as the clip is crowded inwardly upon the rail flange. Also, as the resilient or spring clip is distorted, when driven in place, the gripping projection 7 on the jaw 2 of the clip will engage with the lower surface of the rail flange and by reason of the relative disposition of the grippinig projections 5, 6, and 7 the clip will have a three-point contact with the rail flange, in alternate locations, (that is at 5, 6, and 7), which provides a gripping or biting engagement between the clip and the rail flange that will effectively secure the clip against displacement from ordinary or accidental causes.

While Figs. 2 and 3 of the drawings illustrate the upper clamping jaw 1, with its two points of contact 5 and 6 engaging with the upper side of the rail flange, it will be seen by reference to Fig. 4 of the drawings that this type of clip is readily reversible in its position upon the rail flange so as to bring the two points of contact beneath the rail flange and the single point of contact above the rail flange as shown in Fig. 4 of the drawings. Also, it will be observed that Fig. 4 illustrates a simple and practical embodiment of the invention which can be readily made from bar steel cut to length, then heated and formed to the shape as shown. In this illustrated embodiment it is shown that the points 5, 6, and 7 may be somewhat flattened.

While the rail anchor of the present invention may be manufactured in any suitable manner, Figs. 2 and 4 illustrate forms that may be made from bar steel cut to length, then heated and formed to shape as shown, and Fig. 3 illustrates a construction which may be made in the same passes of a rolling mill. However, it will of course be understood that the present invention is not limited to any particular method of making the clip, and is confined to the article itself having the structural characteristics described.

I claim:

1. A rail anchor comprising a resilient rail flange-embracing clip having opposite spring clamping jaws provided with gripping elements respectively engaging the top and bottom surfaces of the same rail flange.

2. A rail anchor comprising a resilient clip having upper and lower spring clamping jaws for application to one rail flange, one of the jaws being provided with a pair of gripping elements, and the other jaw

being provided with a single gripping element.

3. A rail anchor comprising a resilient clip having upper and lower spring clamping jaws, one of which jaws is provided with a bowed gripping portion.

4. A rail anchor comprising a resilient clip having upper and lower spring clamping jaws, one of which jaws is provided with a bowed portion having spaced gripping elements.

5. A rail anchor comprising a spring clip having upper and lower clamping jaws, one of which is provided with a bowed portion having at the ends of its arc projecting gripping elements.

6. A rail anchor comprising a spring clip having upper and lower clamping jaws, one of said jaws being provided with a bowed portion having spaced gripping projections, and adapted to be distorted by the operation of forcing the clip onto the rail flange.

7. A rail anchor comprising a spring clip having upper and lower clamping jaws, one of the jaws having a pair of gripping elements, and the other jaw having a single gripping element having a location intermediate of said pair of gripping elements.

8. A rail anchor comprising a spring clip having opposite clamping jaws, one of said jaws being provided with a bowed portion having gripping projections at the ends of its arc, and the other jaw having a single gripping projection at an intermediate point.

9. A rail anchor comprising a spring body folded into approximately V-form providing a spring clip having upper and lower clamping jaws, said clip being formed with gripping elements arranged to provide a three-point contact with one rail flange.

10. A rail anchor comprising a spring clip having gripping elements arranged to provide a three-point contact with one rail flange.

11. A rail anchor comprising a spring clip having gripping elements arranged to provide a three-point contact with one rail flange, said gripping elements respectively engaging the top and bottom surfaces of said flange.

12. A resilient one-piece rail anchor adapted for engagement with one rail flange only and provided with jaws having gripping elements adapted, when moved transversely on the rail flange, to tighten on the flange.

13. A rail anchor adapted for engagement with one rail flange only and comprising a spring clip provided with three gripping elements.

14. A rail anchor adapted for engagement with one rail flange only and comprising a spring clip provided with three gripping elements arranged in staggered relation.

15. A rail anchor comprising a resilient one-piece clip adapted to grip one rail flange, and having three gripping points alternately engaging the top and bottom of the rail flange.

16. A rail anchor comprising a resilient clip having upper and lower spring clamping jaws, one of which jaws is provided with a bowed gripping portion and adapted when moved transversely on the flange to tighten on the flange.

17. A rail anchor comprising a resilient clip having upper and lower spring clamping jaws, one of which jaws is provided with a bowed portion having spaced gripping elements and adapted to be applied to one rail flange.

18. A rail anchor comprising a spring clip having upper and lower clamping jaws, one of which is provided with a bowed portion having at the ends of its arc projecting gripping elements and adapted when moved transversely on the rail flange, to tighten on the flange.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

BENJAMIN WOLHAUPTER.

Witnesses:

HAROLD VAN RIPER,

JOHN R. MCAVOY.