Jan. 2, 1923.

L. J. BERKELEY.

RAIL ANCHOR.

FILED JAN. 27, 1921.

1,440,524.

2 SHEETS—SHEET 1.

Fig. 1.

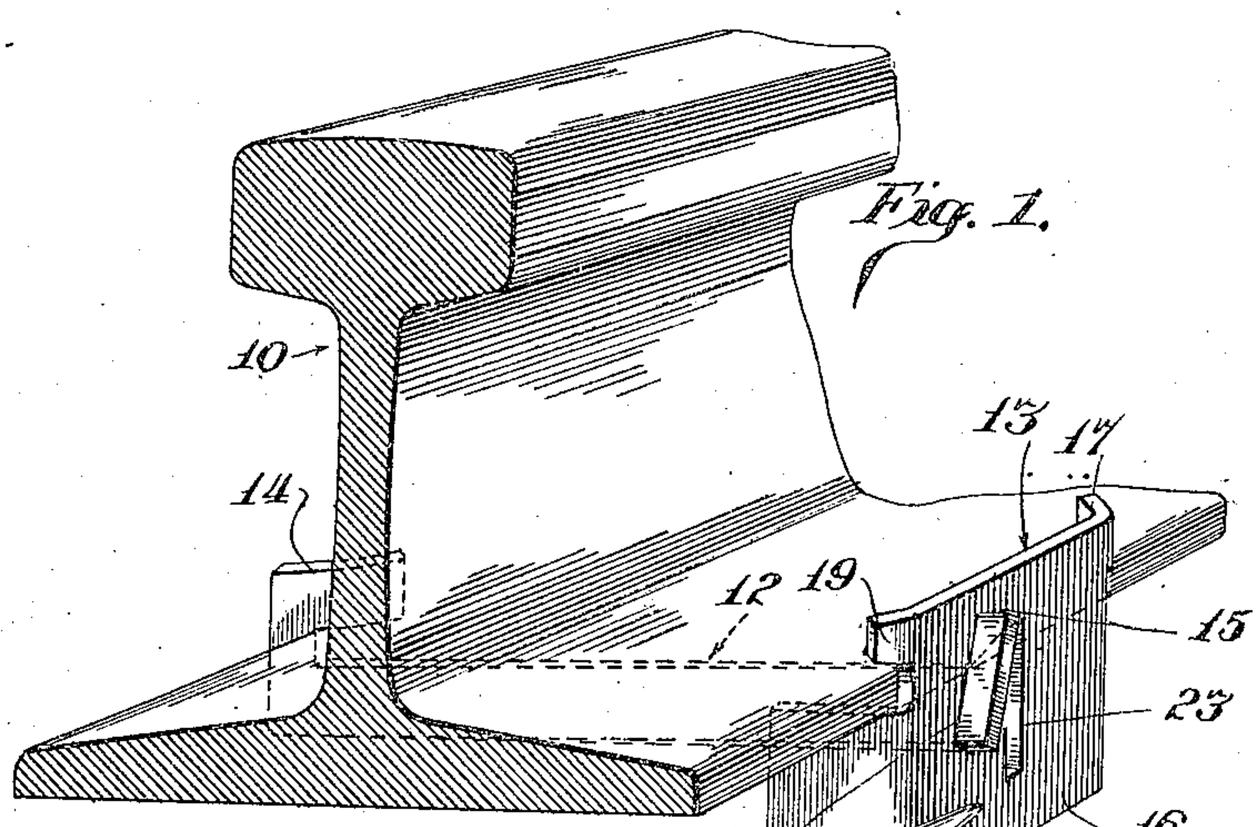


Fig. 3.

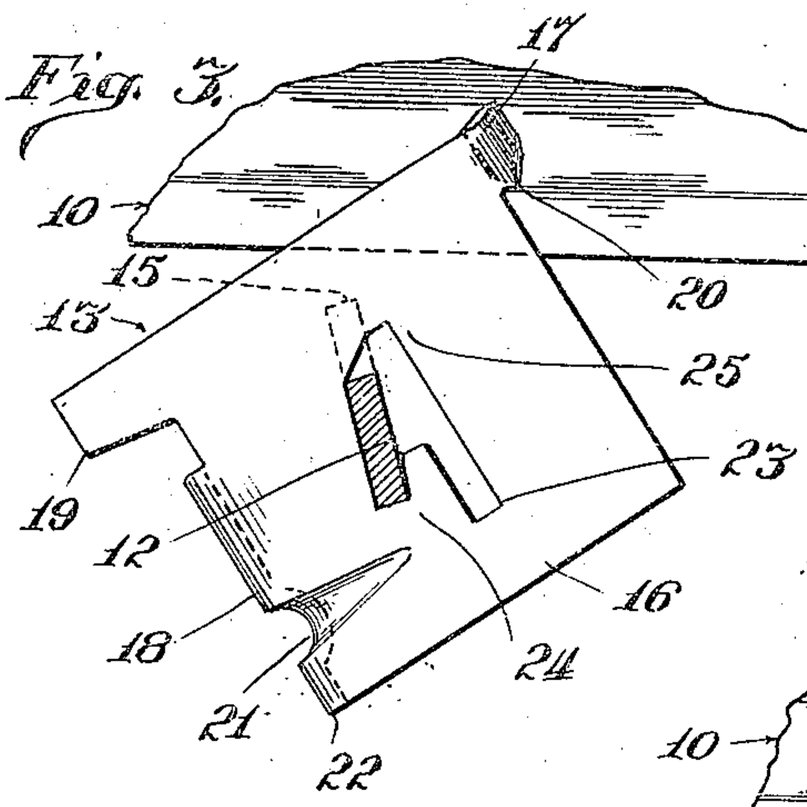


Fig. 2.

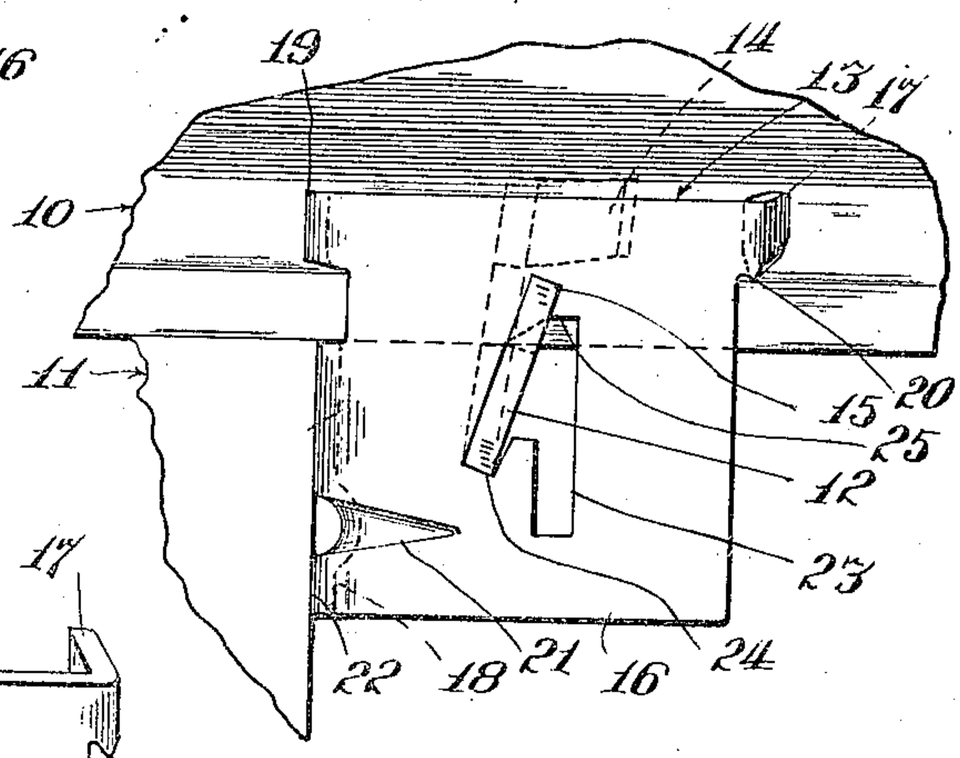
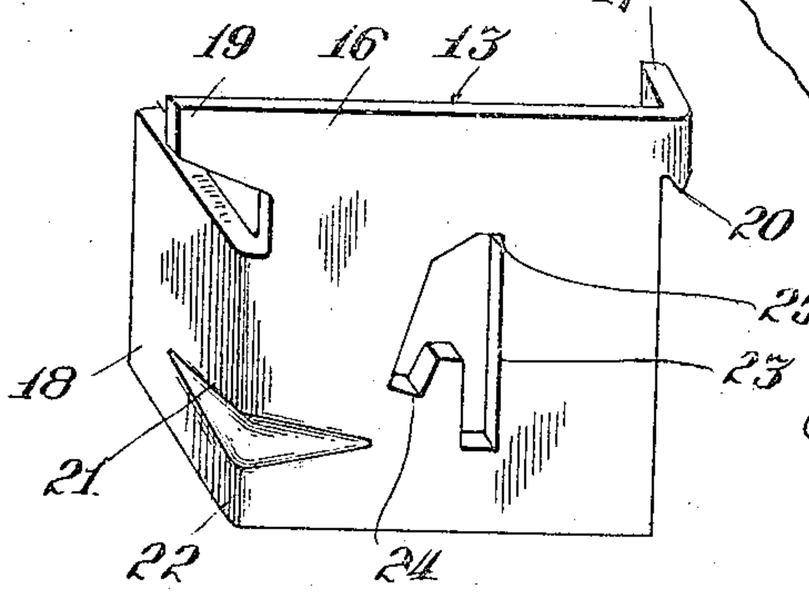


Fig. 4.



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2 SHEETS—SHEET 2.

Fig. 5.

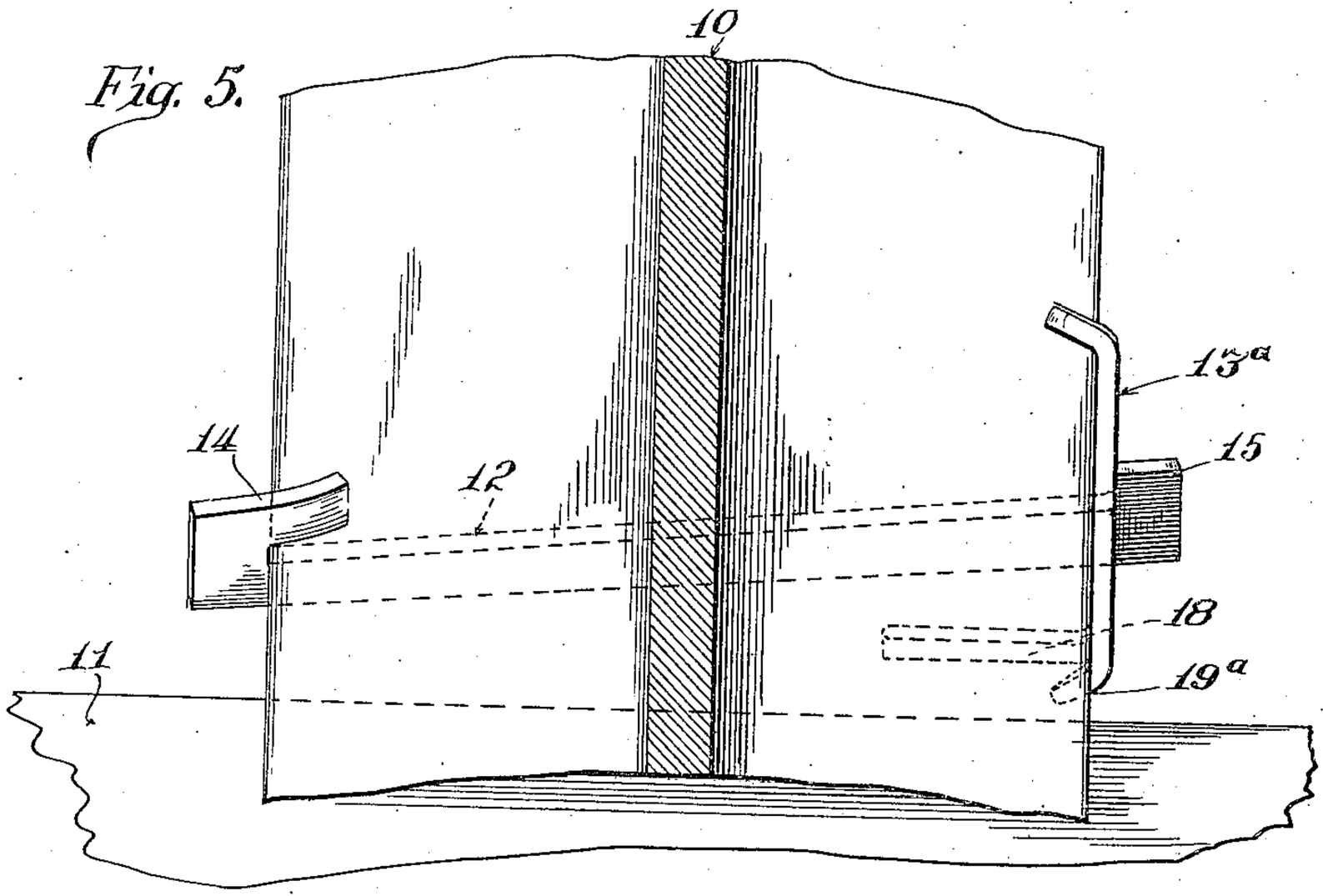


Fig. 6.

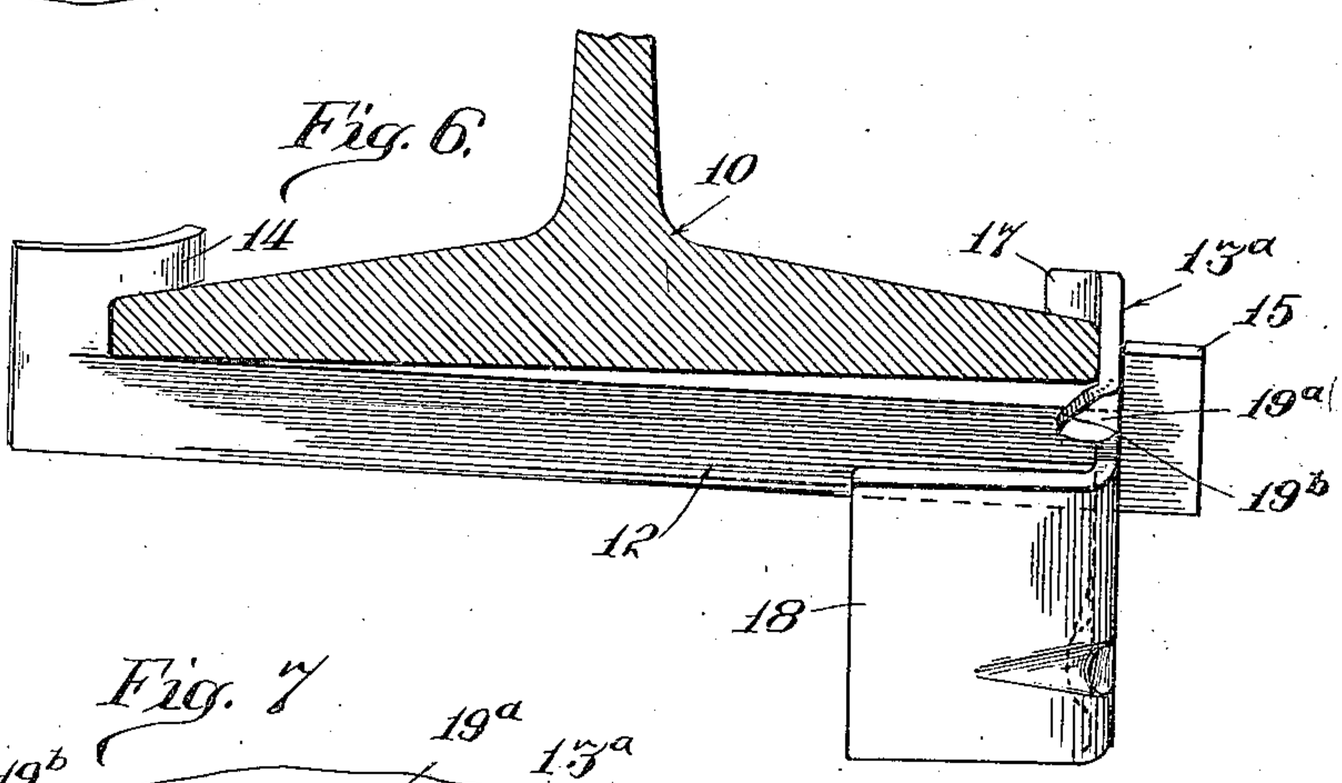
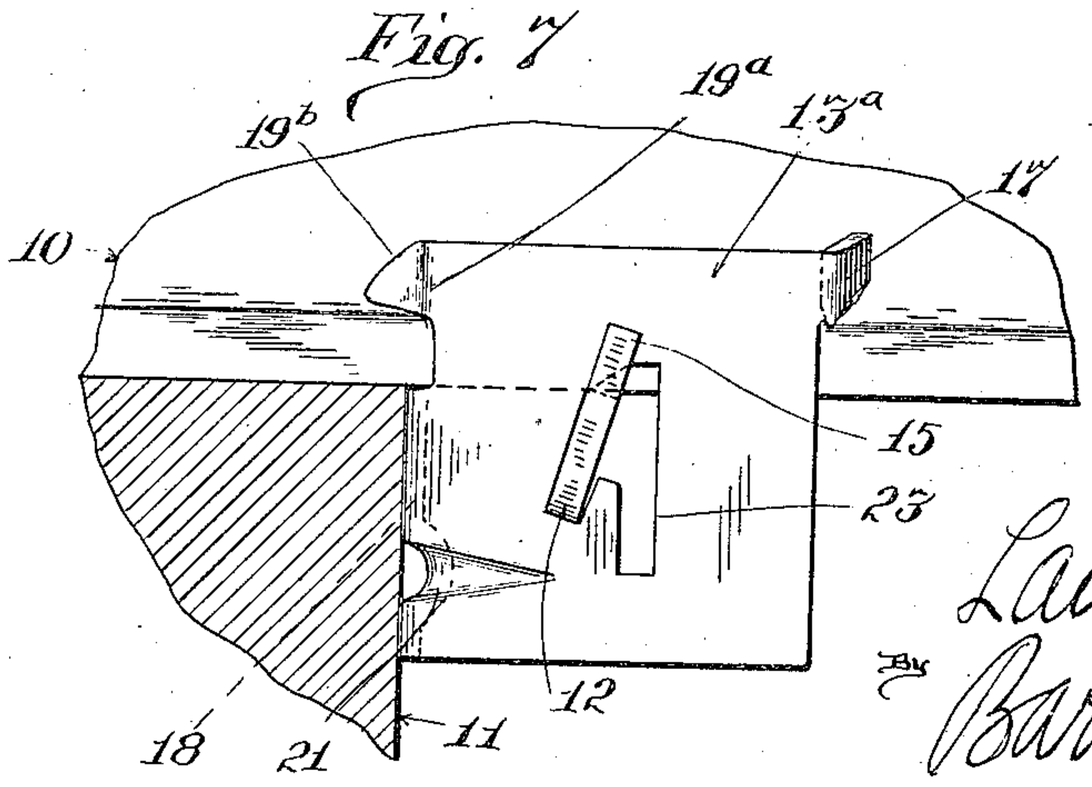


Fig. 7



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Patented Jan. 2, 1923. 1,440,524

UNITED STATES PATENT OFFICE.

LAURENCE J. BERKELEY, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO THE P & M COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

RAIL ANCHOR.

Application filed January 27, 1921. Serial No. 440,396.

To all whom it may concern:

Be it known that I, LAURENCE J. BERKELEY, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Rail Anchors, of which the following is a specification.

My invention relates to devices for resisting the tendency of railroad rails to move longitudinally, such devices being known generally as rail anchors, rail stays and anti-creepers.

The object of the invention is to provide an anchor device suitable for resisting the longitudinal creeping movement of railroad rails which will be relatively inexpensive to manufacture, conveniently applied to a rail, and which when applied will take a combined spring grip and shackle hold on the rail.

A further and more specific object is to provide a novel anchor of the "two-piece" type consisting of a spring member adapted to be strained during its application to a rail so as to exert a spring grip on the rail, and a jaw member having an interlocking engagement with the spring member and provided with a bendable part which is bent to its completed form during the application of the device to its operative position, the bendable part above mentioned being adapted to provide a jaw which, when in its operative position, locks both members of the device on the rail so as to prevent accidental disengagement of the parts of the device, or the displacement of the device on the rail.

In the drawings:

Fig. 1 is a view in perspective of a railroad rail showing an anchor device constructed in accordance with my invention applied in its operative position to the rail;

Fig. 2 is an end view of the same, taken from the right-hand side of Fig. 1;

Fig. 3 is a view similar to Fig. 2 showing the initial position of the anchor device before the same is applied to its operative position;

Fig. 4 is a view in perspective of one of the jaw members of the anchor device;

Fig. 5 is a plan view of a rail base showing a modified form of anchor engaged with the opposite edges of the rail base in the position which it assumes before it is moved to its operative position;

Fig. 6 is a side view of the structure shown in Fig. 5, showing the anchor device in the same relative position as indicated in Fig. 5; and

Fig. 7 is an end view of the device shown in Figs. 5 and 6, with the same moved to its operative position.

Like characters of reference designate corresponding parts in the several figures of the drawings.

Referring first to Figs. 1 to 4 inclusive of the drawings: 10 designates a railroad rail, and 11 one of the cross ties on which the rail is supported.

The rail anchor device shown in these figures consists of a yoke member 12 and a jaw member 13 which have an interlocking engagement with each other, and together embrace the base flanges of the rail. The yoke member 12 is preferably formed of spring metal, and is provided at one end with an angularly disposed hook 14 providing a jaw which fits over one edge of the rail base, the other end of the yoke member being provided with an upstanding portion 15 which engages a portion of the outer surface of the jaw member 13 and interlocks therewith. The jaw member 13 is made preferably of bendable material, for example, sheet metal, and consists of a flat, vertically disposed body portion 16 provided on one of its vertical edges with a normally angularly disposed lug 17 adapted to project over the upper surface of the base flange of the rail, and is formed on its other vertical edge with an inwardly projecting flange 18 adapted to extend under the rail base so as to bear against one of the vertical faces of the cross tie 11, and with a bendable lug 19 which normally extends in alignment with the body portion 16 of the jaw member 15, but is adapted to be bent on a vertical line to project over the upper surface of the rail base when the jaw is applied to its operative position. The lower edge of the angular lug 17 of the jaw member is preferably tapered to

conform with the inclination of the upper surface of the base flange, and is sharpened, as shown at 20, or otherwise suitably provided with a sharp edge adapted to take a biting hold on the rail. If desired, the tie-abutting flange 18 may be rigidified by forming the flange and body portion of the jaw member with a corrugation 21 which extends around the corner 22 of said member.

The body portion of the jaw member is formed with a relatively long slot 23 and a shorter slot 24, connected therewith, through which the end 15 of the yoke member extends when the yoke and jaw members have their normal interlocking position.

In applying the anchor to a rail, the jaw 14 of the yoke is fitted over one edge of the rail base, and the angular lug 17 of the jaw member 13 is fitted over the opposite edge of the rail base, as shown in Fig. 3. In this position of the yoke and jaw members, the end 15 of the yoke member may be passed through the relatively long slot 23 of the jaw member and then moved to the shorter slot 24, in which position the upstanding projection 15 of the yoke will extend above the upper edge 25 of the slots, so as to effect an interlocking engagement between the yoke and jaw members. The jaw member 13 may then be raised to the position shown in Fig. 2, and the lug 19 bent inwardly to engage with the upper surface of the rail base, as shown in Figs. 1 and 2. The raising of the jaw member 13 from the position shown in Fig. 3 to the position shown in Fig. 2 subjects the spring yoke 12 to a torsional strain whereby the hook portion 14, which preferably extends in a direction away from the cross tie 11, is forced downwardly against the upper surface of the rail base and the body portion of the yoke at this end exerts a spring pressure against the under surface of the rail base. The tensioning of the spring yoke 12 in this manner, the spring grip produced thereby against the upper and lower surfaces of the rail base, provide an effective resistance to the tendency of the vibration of the rail, or other disturbing influences, to loosen the initial grip of the device on the rail. When the device is in its applied position, the yoke 12 preferably assumes a position diagonally across the base of the rail, so that the device as a whole will take a firm shackle hold on the opposite edges of the rail base when the rail is subjected to a creeping pressure.

In Figs. 5, 6 and 7 I have shown a modified form of anchor device in which the jaw member 13^a is preferably made of spring metal, and the lug designated 19^a, instead of being bent to its completed form, after the jaw member is raised to its operative position, as shown in Figs. 1 to 4, is tapered as shown at 19^b, so that when raising the jaw member from the position shown in Fig. 6 to the position shown in Fig. 7, the jaw member 13^a will yield sufficiently to permit the lug 19^a to snap over the upper edge of the rail base. In other respects this form of device may be the same as that shown in Figs. 1 to 4, inclusive, and accordingly, has been designated by the same reference characters.

I do not claim specifically herein the form of rail anchor shown in Figs. 5, 6 and 7. The specific features of this form of the invention constitute the subject matter of my copending application Serial No. 561,579, filed May 17, 1922.

I claim:

1. A rail anchor comprising a member adapted to fit over one edge of a rail base, and a member for engaging the opposite edge of the rail base, having an interlocking engagement with the first-mentioned member and adapted to be rocked longitudinally of the rail to its operative position on said rail.

2. A rail anchor comprising a member adapted to extend across a rail base and to fit over one edge thereof, and a member for engaging the opposite edge of the rail base, having an interlocking engagement with the first-mentioned member and adapted to be rocked longitudinally of the rail to its operative position on said rail.

3. A rail anchor comprising a member adapted to extend across a rail base and to grip one edge thereof with spring pressure, and a member for engaging the opposite edge of the rail base, having an interlocking engagement with the first-mentioned member, and adapted to be rocked, on an axis extending transversely of the rail, to its operative position on said rail.

4. A rail anchor comprising a member adapted to extend across a rail base and to grip one edge thereof with spring pressure, and a member for engaging the opposite edge of the rail base, having an interlocking engagement with the first-mentioned member and adapted to be rocked, on an axis extending transversely of the rail, to its operative position on the rail, one of said members being a spring and being strained in its applied position on said rail.

5. A rail anchor comprising a spring member adapted to extend around the base of a rail, and a member having an interlocking engagement therewith adapted to be rocked, on an axis extending transversely of the rail, to its operative position on the rail base.

6. A rail anchor comprising a rail engaging member adapted to fit over one edge of a rail base and a jaw member having an interlocking connection with said rail engaging member and adapted to be rocked longitudinally of the rail into engagement with the opposite edge of the rail base; said rail

engaging member being a spring which is tensioned in its applied position.

7. A rail anchor comprising a rail engaging member adapted to fit over one edge of a rail base, and a jaw member having an interlocking connection with said rail engaging member and adapted to be rocked into engagement with the bottom surface of the rail base; said rail engaging member being a spring which is subjected to a torsional strain in its applied position.

8. A rail anchor comprising a spring metal yoke member adapted to extend around the base of a rail, and a jaw member adapted to be rocked into operative engagement with the bottom surface of the rail and having an interlocking engagement with said yoke member whereby said rocking movement subjects the yoke member to a torsional strain.

9. A rail anchor comprising a spring metal yoke member adapted to extend around the base of a rail, and a jaw member adapted to be rocked into operative engagement with the rail and having an interlocking engagement with said yoke member whereby said rocking movement subjects the yoke member to a torsional strain to maintain an initial spring grip of the device on the rail; said yoke member being adapted to assume a position diagonally across the rail base whereby the anchor will grip the opposite edges of the base with a shackle hold when the rail is subjected to a creeping pressure.

10. A rail anchor comprising a rail base engaging member adapted to fit over one edge of a rail base, and a member having an interlocking engagement with said rail base engaging member adapted to be rocked to its operative position and bent over the upper surface of the rail base to lock the device on the rail.

11. A rail anchor comprising a rail base engaging member adapted to fit over one edge of a rail base, and a member having an interlocking engagement with said rail base engaging member adapted to be rocked to its operative position and bent over the upper surface of the rail base to lock the device on the rail; said rail base engaging member being made of spring metal and strained in its operative position on the rail.

12. A rail anchor comprising a rail base engaging member adapted to fit over one edge of a rail base, and a member having an interlocking engagement with said rail base engaging member adapted to be rocked to its operative position and bent over the upper surface of the rail base to lock the device on the rail; said rail base engaging member being made of spring metal and subjected to a torsional strain by the rocking of the other of said members.

13. A rail anchor comprising a spring metal yoke member and a jaw member which together embrace the base of a rail, the jaw member being formed with a slot with which said yoke has an interlocking engagement and provided with a bendable portion which is bent over the edge of the rail when the anchor is in its operative position.

14. A rail anchor comprising a spring metal yoke member and a jaw member which together embrace the base of a rail, the jaw member being formed with a slot with which said yoke has an interlocking engagement and provided with a bendable portion which is bent over the edge of the rail when the anchor is in its operative position; the said slot being so arranged that the rocking of said jaw member subjects said yoke to a torsional strain.

15. A rail anchor comprising a yoke member formed at one end with a jaw to engage one edge of a rail base and formed at the other end with an enlargement, and a jaw member formed with a slot with which the enlargement of said yoke interlocks, provided with a normally angular lug adapted to engage the upper surface of the rail base, an angularly disposed flange adapted to bear against a cross-tie, and a bendable lug adapted to be bent into engagement with the upper surface of the rail base to hold said yoke and jaw members in their operative position on the rail.

16. A rail anchor comprising a yoke member formed at one end with a jaw to engage one edge of a rail base and formed at the other end with an enlargement, and a jaw member formed with a relatively long slot through which the enlargement of said yoke is passed to effect an interlocking engagement therewith and formed with a shorter slot connected with said first-mentioned slot and adapted to receive the body of the yoke adjacent said enlargement and support the same in a position in which said enlargement projects above the upper end of said slots; said member being provided with a normally angular lug adapted to engage the upper surface of the rail base, an angularly disposed flange adapted to bear against a cross-tie, and the under surface of the rail base, and a bendable lug adapted to be bent into engagement with the upper surface of the rail base to hold said yoke and jaw members in their operative position on the rail.

17. A rail anchor comprising a member adapted to fit over one edge of a rail base, and a member associated therewith adapted to engage the opposite edge of the rail base; said second-mentioned member being adapted to be rocked longitudinally of the rail to its operative position on said rail.

18. A rail anchor comprising a member adapted to extend across a rail base and to fit over one edge thereof, and a member associated therewith for engaging the opposite edge of said rail base; said second-mentioned

member being adapted to be rocked longitudinally of the rail into its operative position on the base of said rail.

19. A rail anchor comprising a member adapted to extend across a rail base and to fit over one edge of said base, and a member associated therewith for engaging the opposite edge of the rail base and being adapted to be rocked longitudinally of the rail to its operative position on the rail; one of said members being a spring and being strained in its application to the rail.

LAURENCE J. BERKELEY.