Jan. 2, 1923.

1,440,523.

L. J. BERKELEY.

RAIL ANCHOR.

FILED JAN. 10, 1921.

Fig. 1.

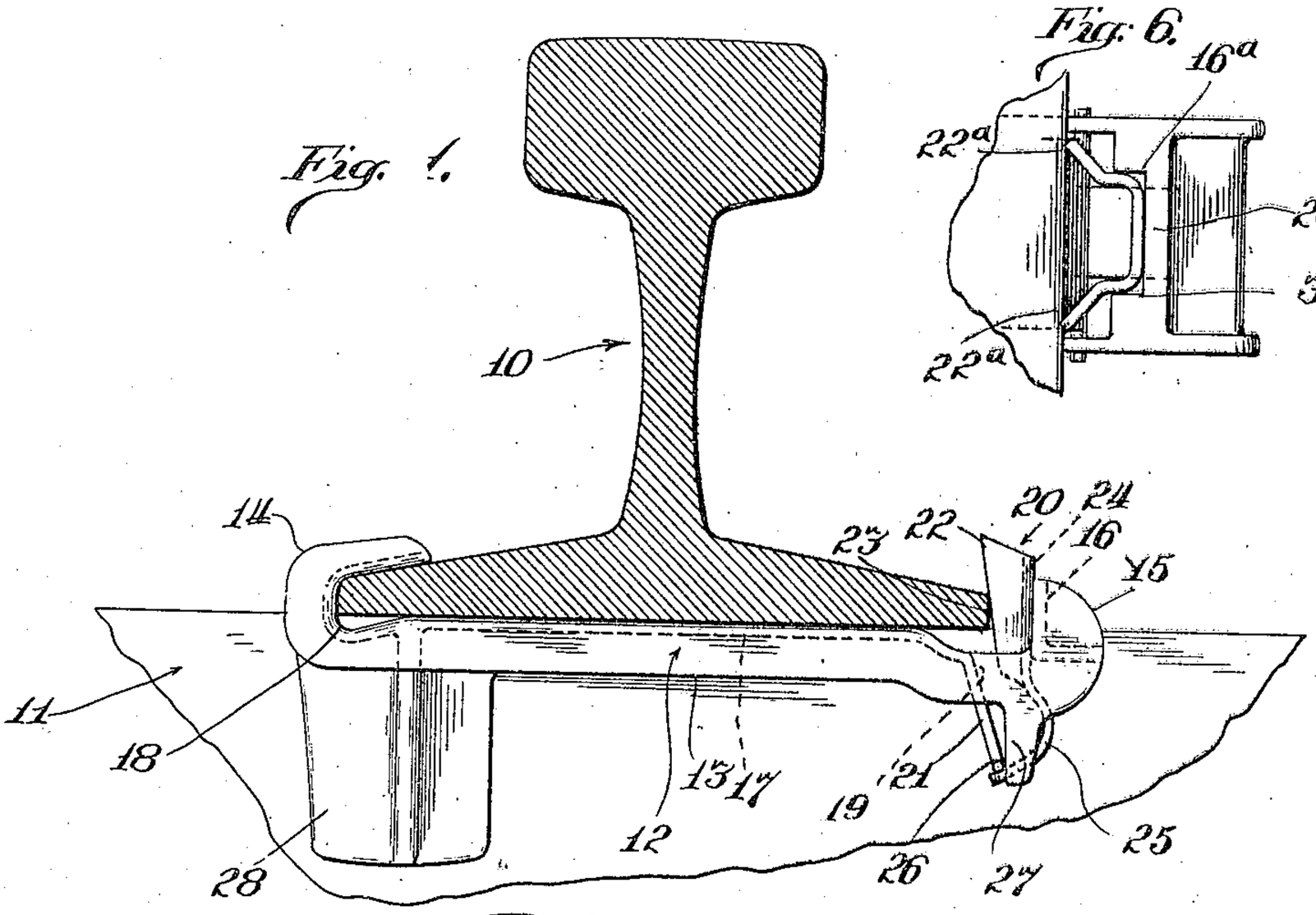


Fig. 6.

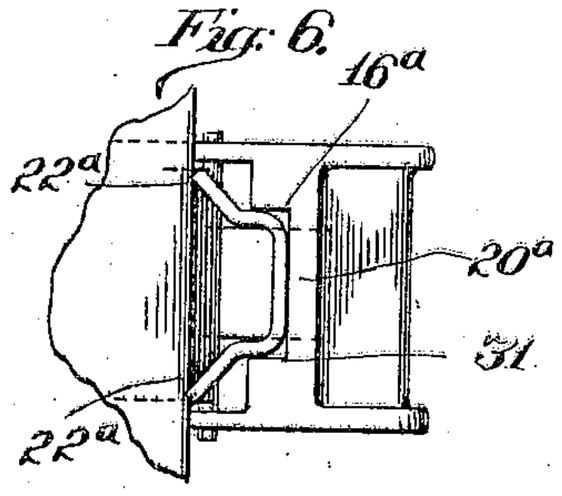


Fig. 5.

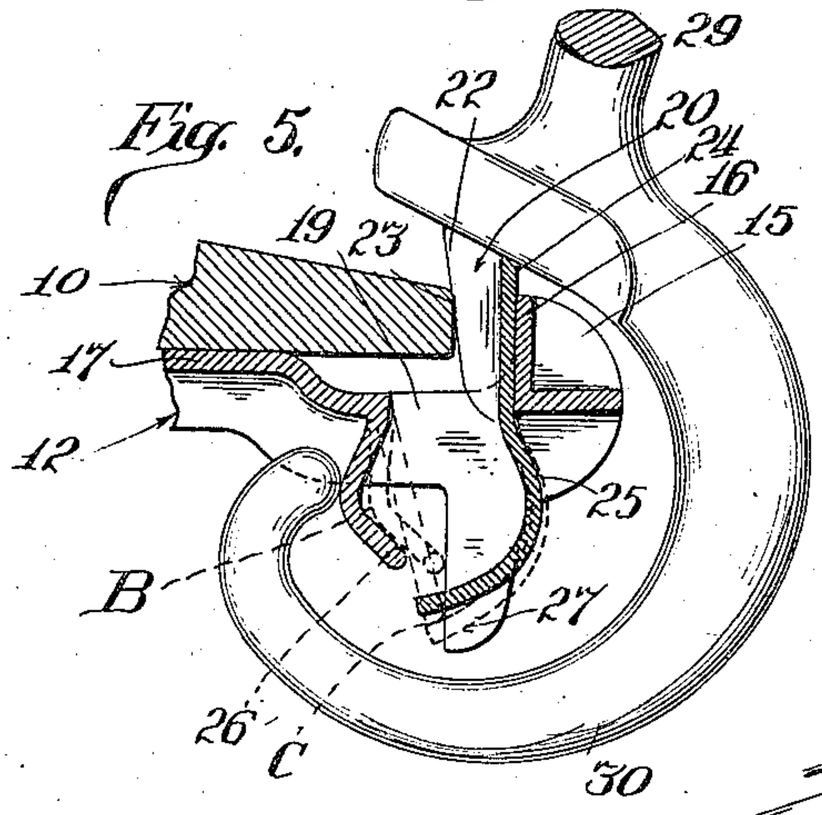


Fig. 4.

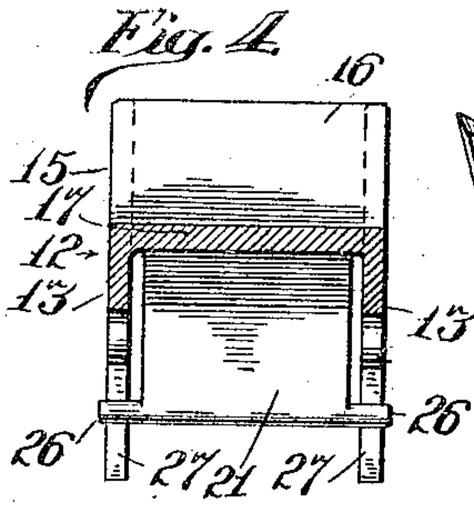


Fig. 2.

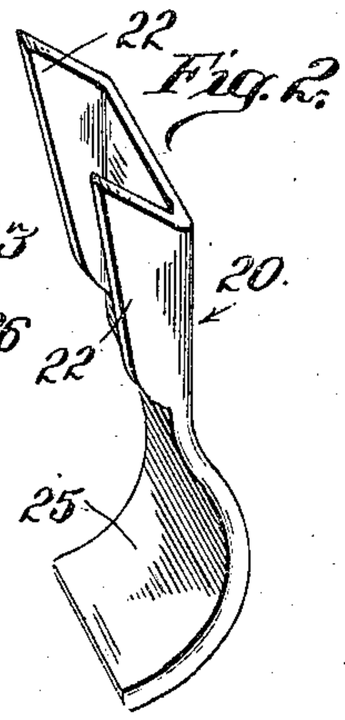
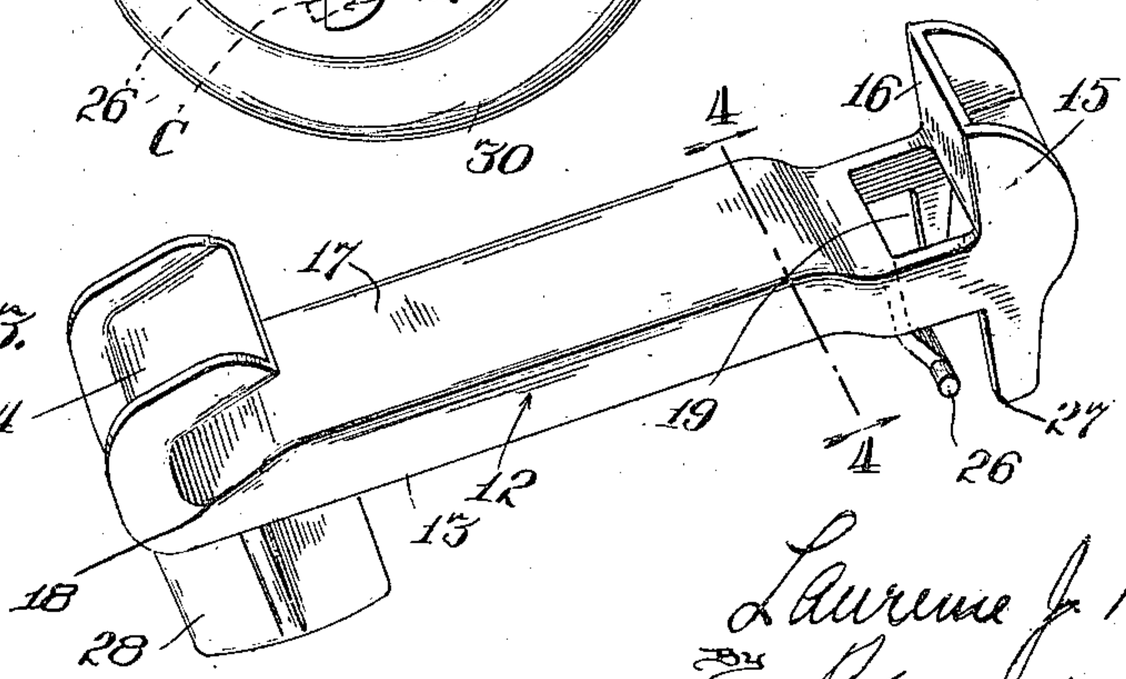


Fig. 3.



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Patented Jan. 2, 1923. 1,440,523

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 10, 1921. Serial No. 436,188.

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 pressures on railroad rails, resulting from the passing of traffic in one general direction or other causes, having a tendency to produce a longitudinal creeping movement of the rails.

One of the principal objects of my invention is to provide an improved "two-piece" anchor device consisting of a jaw member and key, the latter of which is adapted to be forced into wedging engagement between the jaw member and the rail to effect a firm grip of the device on the rail; the jaw member and key being so formed that one of the members will be tensioned and interlocked with the other during the application of the device to the rail to lock the anchor in its applied position and resist the tendency of the vibration of the rail, counter-creeping or other disturbing influences from loosening the grip of the device on the rail.

Another object of my invention is to provide an anchor device having the above mentioned features and being formed with a key member, a portion of which has an angular position with relation to the vertical edge of the rail base and is forced vertically between the jaw member and one of the vertical edges of the rail base so that the angularly disposed portion of the key will project over the upper edge of the rail base so as to support the jaw member of the anchor up against the under-surface of the rail base when the jaw and key members are interlocked with each other.

Another object is to provide an improved anchor consisting of a rail embracing yoke and a spring key adapted to have an interlocking engagement with the yoke, the yoke and key being constructed so that they may be readily applied to rails having base flanges of differing widths and firmly interlocked in operative position on such rails.

The invention has for further objects the novel arrangement, construction and combination of parts hereinafter described and claimed, for carrying out the above stated objects and such other objects as will appear from the following description of a preferred construction.

In the drawing, Fig. 1 is a front view in elevation of a rail anchor device constructed in accordance with my invention applied in its operative position on the base flanges of a railroad rail, the railroad rail being shown in section,

Fig. 2 is a view in perspective of a preferred form of key member shown in Fig. 1,

Fig. 3 is a view in perspective of the rail base embracing yoke used in connection with the key member shown in Fig. 2,

Fig. 4 is a cross section taken through one end of the yoke on line 4—4 of Fig. 3, looking in the direction indicated by the arrows, and

Fig. 5 is a vertical sectional view taken through the key end of the rail anchor, showing the manner in which the anchor device may be conveniently applied to its operative position and also showing the manner in which a portion of the yoke member is bent to interlock with the key member.

Fig. 6 is a fragmentary plan view of the key end of a modified form of yoke showing also a modified form of key member.

Like characters of reference designate corresponding parts throughout the several figures of the drawing.

Referring first to Figs. 1 to 5 inclusive of the drawing, 10 designates a railroad rail and 11 one of the cross ties on which the rail is supported. The anchor shown in these figures consists of a yoke member 12, made preferably of malleable casting, which extends under the rail base. The yoke is rigidified with ribs 13—13 and is formed at one end with a jaw 14, which hooks over one edge of the rail base. The other end of the yoke is formed with a jaw portion 15 comprising an upstanding flange 16 which stands out of engagement with the opposite edge of the base flange of the rail. The web 17 of the yoke adjacent the jaw 14 is inclined downwardly as shown at 18 so as to facilitate the application of the jaw to the rail base. At the other end of the yoke the web portion stops short of the upstanding flange 16 to provide an opening 19 through which the lower end of a wedge shaped key 20 extends when the

device is clamped to a rail. A bendable tongue 21 of an angular configuration extends downwardly from the web 17 of the yoke and is adapted, as will be hereinafter described, to be bent into engagement with the lower end of the key 20, so as to lock the key in its applied position.

The key 20 is preferably made of spring metal and is formed with tapering flanges 22—22 adapted to be forced into a wedging position between the edge 23 of the rail base and the upstanding flange 16 of the jaw 15. The web portion 24 of the key extends below the flanges 22—22 as shown at 25 and is formed in a curved or angular configuration as shown in Figs. 1, 2 and 5.

When applying the anchor, the jaw end 15 is passed under the rail base and the jaw 14 fitted over one edge of the base. The jaw 15 of the yoke is then held up against the rail base by any suitable means until the key 20 is driven or otherwise forced into a firm wedging engagement between the upstanding flange 16 of the jaw 15 and the edge 23 of the rail base. When the key 20 is driven home, the bendable tongue 21 of the yoke is bent toward the key until lugs 26—26 at the lower end of the tongue 21 engage the vertical edges of lugs 27—27 extending downwardly from the flanges 13—13 of the yoke. This position of the tongue 21 is shown in dotted lines and indicated by the reference character B in Fig. 5. By applying further pressure to the angular tongue it will be straightened out so as to force its lower end into contact with the spring end 25 of the key and thereby tension the same, as shown in dotted lines indicated at C in Fig. 5.

With the key 20 applied in the above manner, it will be seen that the upper portion of the tapered surfaces of the key flanges 22—22 project inwardly over the upper edge 23 of the rail base and that the tensioning of the lower portion 25 of the key in the manner described will hold the jaw end 15 of the yoke up in its proper position and prevent the vibration of the rail or other disturbing influences from loosening the wedging position of the key.

The yoke 12 is provided with a tie abutment 28 which preferably bears against one of the vertical faces of the tie 11 at a point preferably adjacent one edge of the rail base.

In Fig. 5 I have shown a device with which the key 20 may be forced home and the bendable tongue 21 straightened so as to tension the lower end of the key. This device consists of a bar 29 formed with a hook 30 which engages the bendable tongue 21 and the upper end of the yoke 20. By moving the bar 29 toward the left of Fig. 5, pressure will be applied simultaneously to the said tongue 21 and key so as to force them into their previously described interlocking position.

In Fig. 6 I have shown a modified form of key and indicate a preferred construction of the key end of the yoke when this type of key is used. In this modification the key designated 20^a seats in a recess 31 formed in the upstanding flange 16^a of the yoke and flanges designated 22^a—22^a of the key are bent, on vertical lines, in opposite directions so that they will stand at acute angles to the edge of the rail base. With this construction the flanges 22^a—22^a will be tensioned when the key is driven home, and thereby gives the key a combined wedging and spring action so that the anchor will maintain a firm grip on rail bases of different widths and so as to compensate for any variation in width resulting from expansion or contraction. This device, in other respects, may be the same as that shown in Figs. 1 to 5 inclusive.

While I have described my invention in connection with certain specific embodiments it will be obvious that the structural features of the device may be varied without departure from the spirit of my invention. I therefore wish it understood that my invention contemplates all such structural features as come within the scope of the appended claims.

I claim:

1. A rail anchor comprising a jaw member and a key adapted to be forced into wedging engagement between said member and one edge of the base of a rail and having a resilient portion interlocking with said jaw member so as to hold said key in position by spring pressure.

2. A rail anchor comprising a jaw member and a key adapted to be forced vertically into wedging engagement between said member and one of the vertical edges of the base of a rail and having a resilient portion interlocked with said jaw member to prevent reverse movement of the key.

3. A rail anchor comprising a jaw member and a spring metal key adapted to be forced into wedging engagement between said member and one of the vertical edges of the base of a rail and interlocked with said jaw member.

4. A rail anchor comprising a yoke member adapted to extend across the under surface of a rail base and formed with a jaw portion which engages one edge of said base, and a key adapted to be wedged between the opposite edge of said base and the other end of the yoke and formed with an angular extremity having an interlocking engagement with said yoke.

5. A rail anchor comprising a yoke member adapted to extend across the under surface of a rail base and formed with a jaw portion which engages one edge of said base,

a vertically disposed key adapted to be wedged between the opposite edge of said base and the other end of the yoke and formed with a spring portion having an interlocking engagement with said yoke.

6. A rail anchor comprising a yoke member formed at one end with a jaw to engage one edge of the base of a rail and formed at the other end with an abutment, and a key member adapted to be wedged between the opposite edge of said rail base and said abutment; said key being provided with a spring end adapted to be tensioned when in operative position, and interlocked with said yoke member.

7. A rail anchor comprising a yoke member formed at one end with a jaw to engage one edge of the base of a rail and formed at the other end with an abutment, and a key member formed with tapered flanges which normally project over the opposite edge of said rail base and are adapted to be wedged between said opposite edge of the rail base and said abutment; said key being provided with a spring and adapted, when in its applied position, to be tensioned and interlocked with said yoke member.

8. A rail anchor comprising a yoke member and a key member, which together grip opposite edges of a rail base; the key being formed with a spring portion and the yoke being formed with a lug adapted to be bent to effect an interlocking engagement between said yoke and said spring portion of the key.

9. A rail anchor comprising a yoke member and a key member which together grip opposite edges of a rail base; the key being formed with a spring portion and the yoke being formed with a lug adapted to be bent to tension said spring portion of the key and to effect an interlocking engagement between said yoke member and key.

10. A rail anchor comprising a yoke member and a key member which together grip opposite edges of a rail base; the key being formed with a spring portion and the yoke being formed with an angular shaped lug adapted to be bent to tension said spring portion of the key and to effect an interlocking engagement between said yoke and key.

11. A rail anchor comprising a yoke member and a key member which together grip opposite edges of a rail base; the key being formed with a spring portion and the yoke being formed with an angular shaped lug adapted to be bent to tension said spring portion of the key and to effect an interlocking engagement between said yoke and key, said yoke being provided with a depending abutment adapted to be engaged by the lower edge of said bendable lug so as to limit the bending movement of said lug.

12. A rail anchor comprising a yoke member and a key member which together grip opposite edges of a rail base; the key being formed with a wedge-shaped portion and terminating in a spring end, and said yoke being formed with an angularly disposed bendable tongue adapted to be straightened to tension said spring end of the key.

13. A rail anchor comprising a yoke member and a key member which together grip opposite edges of a rail base, the key being formed with a wedge-shaped portion and terminating in a spring end, and said yoke being formed with an angularly disposed bendable tongue adapted to be straightened to tension said spring end of the key when the device is applied to a rail, whereby the yoke member is maintained in its proper position by a combined wedging and spring pressure.

14. In combination, a rail-embracing yoke member formed at one end with a jaw to engage one edge of the base of a rail and formed at the other end with an opening, an upstanding abutment at one edge of said opening, a bendable angular tongue extending downwardly from said yoke member, and a key adapted to be wedged between said upstanding abutment and the rail base and provided with a spring end which is tensioned by an interlocking connection with said bendable tongue when the device is applied.

15. In combination, a rail-embracing yoke member formed at one end with a jaw to engage one edge of the base of a rail and formed at the other end with an opening, an upstanding abutment at one edge of said opening, a bendable angular tongue extending downwardly from said yoke member, and a key adapted to be wedged between said upstanding abutment and the rail base, and provided with a curved spring end; said bendable tongue being adapted to be bent into an interlocking position with said key whereby the spring end of the key is tensioned to maintain a firm grip of the device on the rail.

LAURENCE J. BERKELEY.