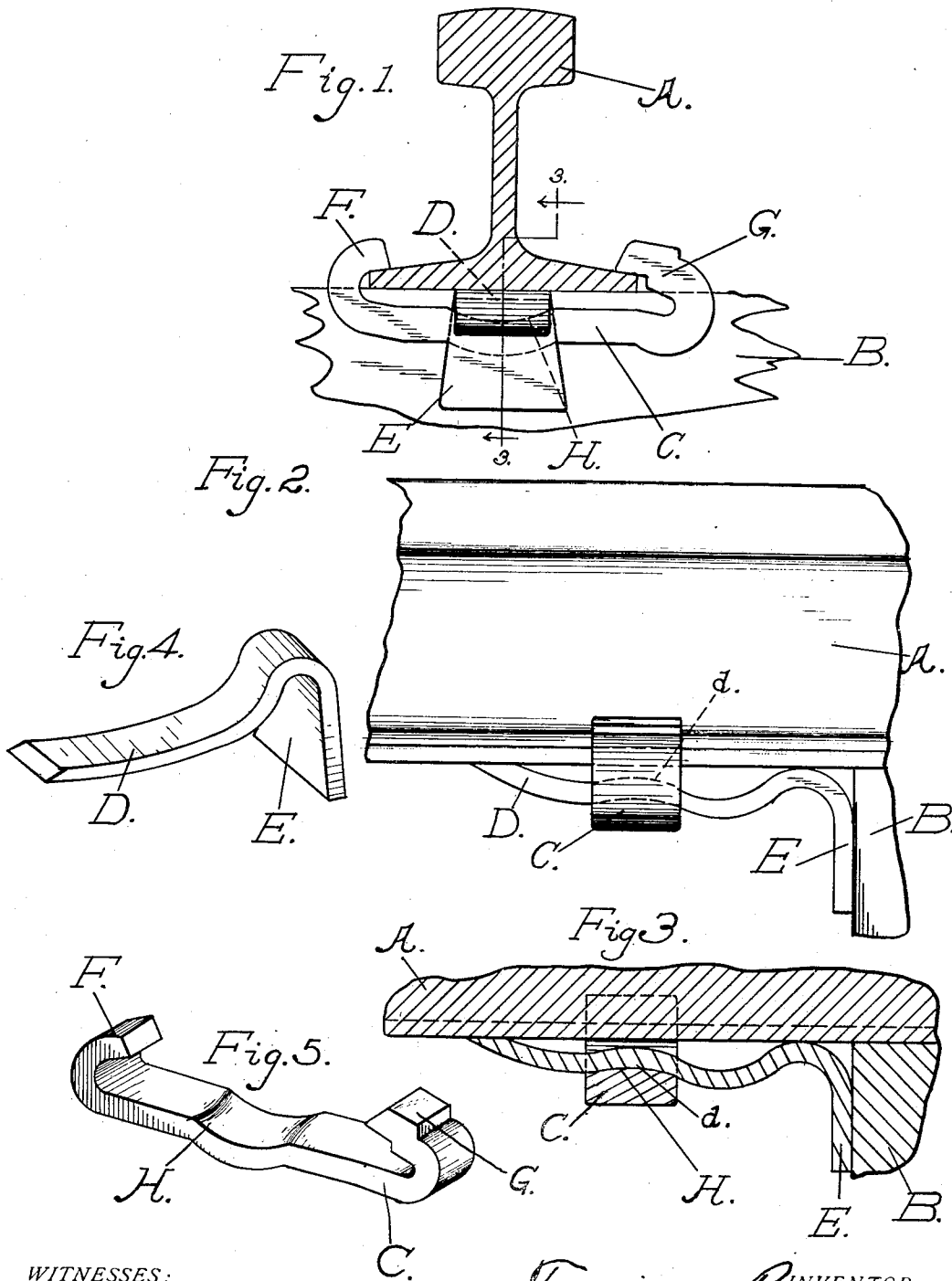


F. A. PRESTON.
RAIL ANCHOR.
APPLICATION FILED APR. 13, 1914.

1,101,658.

Patented June 30, 1914.

2 SHEETS—SHEET 1.



WITNESSES:
J. B. Lagorio Jr.
H. M. Gillespie

INVENTOR.
Frederick A. Preston
BY
Barnett & Ruman
ATTORNEYS.

F. A. PRESTON.
RAIL ANCHOR.
APPLICATION FILED APR. 13, 1914.

1,101,658.

Patented June 30, 1914.

2 SHEETS-SHEET 2.

Fig. 6.

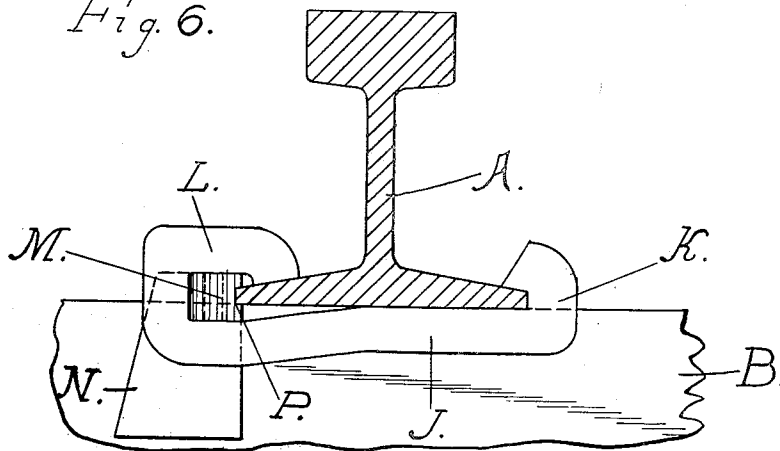


Fig. 7.

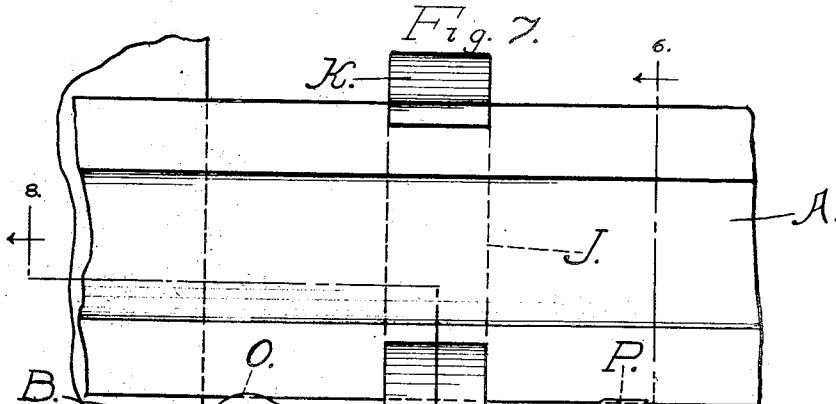


Fig. 9.

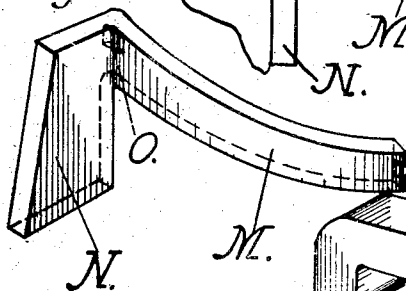


Fig. 8.

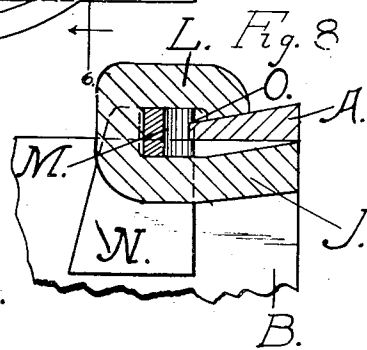
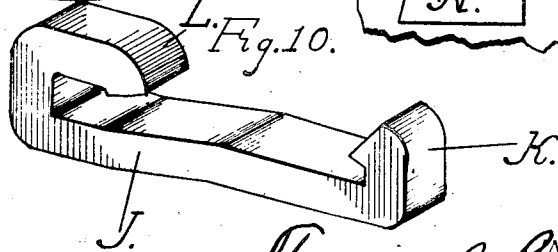


Fig. 10.



WITNESSES:

J. B. Lagorio, Jr.
H. M. Geller

Fredrick A. Preston
BY Barnett & Truman
ATTORNEYS.

UNITED STATES PATENT OFFICE.

FREDERICK A. PRESTON, OF HIGHLAND PARK, ILLINOIS, ASSIGNOR TO THE P & M CO.,
OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

RAIL-ANCHOR.

1,101,658.

Specification of Letters Patent.

Patented June 30, 1914.

Application filed April 13, 1914. Serial No. 831,536.

To all whom it may concern:

Be it known that I, FREDERICK A. PRESTON, a citizen of the United States, residing at Highland Park, in the county of Lake and State of Illinois, have invented certain new and useful Improvements in Rail-Anchors, of which the following is a specification.

My invention relates to devices for preventing the longitudinal creep of railroad rails, such devices being commonly called rail anchors, rail stays, or anti-creepers. A device of this sort consists essentially of a clamp engaging the rail and an element for giving the device a stationary position in the roadbed so that the tendency of the rail to creep will be checked. Anti-creeping devices are very frequently constructed so that a forward longitudinal movement of the rail automatically brings about a tightening of the clamp of the device on the rail base so that the creeping tendency is self-checked. But in order that the device should function in this way there must obviously be an initial or constantly maintained grip of the device on the rail, otherwise the rail will creep through the anchor. Even when a rail anchor is, in the first instance, given a tight grip on the rail, such grip may become loosened or insecure from a number of different causes, for example, the difference in contraction and expansion as between the rail and the parts of the anchor resulting from temperature changes and the vibration or weaving movement of the rail under the impulses of the wheels of the trains.

The principal object of my invention is to provide an anti-creeping device of novel and improved construction composed in part of a flexible element or tongue which is bent and put under tension when the device is applied to the rail so that it exerts a constant pressure tending to take up any looseness and thereby keeps the anchor closely engaged with the rail.

The invention is illustrated in the accompanying drawings in two preferred embodiments which, it will be understood, are susceptible of some modification without departure from the principles of the invention.

In the drawings Figure 1 shows, in elevation, one embodiment of the invention in operative position on a rail, the latter being shown in cross section. Fig. 2 is a side elevation of the rail with the anchor attached

thereto; Fig. 3, a sectional view, on line 55 3—3 of Fig. 1; Fig. 4, a view, in perspective, of the flexible element of the device; Fig. 5, a similar view of the yoke or rigid element; Fig. 6, a view similar to Fig. 1 showing the other embodiment of the invention referred to above, being a sectional view taken on line 6—6 of Fig. 7; Fig. 7, a plan view of the parts shown in Fig. 6; Fig. 8, a detail sectional view on line 8—8 of Fig. 7, and Figs. 9 and 10, views, in perspective, of the flexible or tongue element and the yoke or rigid member, respectively, of this type of device.

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

Referring first to Figs. 1 to 5 inclusive, A designates a railroad rail and B one of the cross ties supporting the same.

The anchor consists, in this embodiment of the invention, of a yoke C and a tongue D. The tongue is preferably elastic and the yoke rigid, although the latter may also be made of material having a certain amount of flexibility. One of these members, preferably the last named, is provided with a tie abutting flange E adapted to bear against the tie B when the device is in operative position. The yoke C is formed with jaws F and G which bear on opposite edges of the base of rail A. The yoke is preferably formed centrally with a recess H to receive the flexible tongue D. The latter is made of spring metal and is preferably curved or bowed as shown. It may also be tapered in width although this is not essential.

The device is applied to the rail by placing the tongue element D under the bottom of the rail with the tie abutting flange bearing against the cross tie B, and placing the yoke around the rail base and forcing it up toward the tie to a secure position. The yoke may be driven on with a hammer if necessary. This bends the tongue D as best shown in Fig. 3. The curvature of the tongue is such that the pressure developed between the tongue and yoke is increased as the yoke is driven toward the tie. This effect may be enhanced by forming the tongue so that it increases in width from its outer extremity toward the tie abutting flange E. Preferably the tongue is bowed sufficiently so that the application of the yoke thereto gives the tongue a reverse bend

whereby the tendency of the yoke toward a retrograde movement, as a result of vibration or the suppositional reactive longitudinal movements of the rail following the forward creeping impulse, will be effectually checked. Thus in case the contraction of the rail carries the device bodily away from the tie so that the flange E is out of engagement with the tie there will be no longer any pressure tending to force the two members of the device into engagement with each other and into clamping engagement with the rail unless as in my device some special feature is provided for that purpose. In the absence of such special feature the vibration of the rail caused by passing trains will, under those conditions, tend to separate the two members of the device whereupon the device will lose its grip on the rail and will ultimately drop off on to the road bed. So also, if obstructions such as pieces of ballast should come in front of the flange E so as to afford resistance to the movement of the flange E away from the tie when the rail contracts, the tendency of the contraction of the rail would be to draw the two members apart, thus again loosening the grip of the device on the rail and destroying its efficiency. It will thus be seen that in providing a structure in which there is effective resistance to the movement of the bar C lengthwise of the tongue D in either direction from the operative position of the parts, I have provided means independent of the abutment of the flange E against the tie to prevent the disengagement of the members from each other and to prevent the loosening of the device on the rail. The same principle of construction is involved in the embodiment of the invention illustrated in Figs. 6 to 10 inclusive. The yoke J is formed on one end with a jaw K and on the other end with a larger jaw L which is designed to receive the elastic bowed tongue M, preferably provided with a tie abutting plate N. The tongue M bears against the edge of the rail base and is preferably notched as shown at O, P so as to have a firmer seat against the rail base.

I claim:

1. A rail anchor comprising rail gripping elements, one of which is formed with means for giving the device a stationary position in the roadbed and with an elastic member extending lengthwise of the rail which is put under tension when the device is in operative position on the rail so that it exerts a pressure tending to maintain the grip of said device on the rail.

2. A rail anchor comprising rail gripping elements one of which is provided with means for giving the device a stationary position in the road bed and with an integral curved elastic member extending lengthwise of the rail and when in operative

position engaged by another element of the device so as to be put under tension thereby tending to prevent a loosening movement between said elements.

3. A rail anchor comprising rail gripping elements one of which is provided with means for giving the device a stationary position on the roadbed and one of which is provided with a curved elastic member which is bent by the engagement of the other element therewith so as to form a shoulder against which said other element seats, thereby preventing a retrograde movement of said other member.

4. A rail anchor comprising rail gripping elements, one of which is provided with means for giving the device a stationary position on the roadbed and one of which is provided with an elastic member which is bent by the engagement of the other element therewith so as to form a shoulder against which said other element seats, thereby preventing a retrograde movement of said other member.

5. A rail anchor comprising a yoke adapted to extend around the base of a rail, and an elastic tongue which intervenes between the yoke and the rail base so as to be put under pressure when the device is in operative position on the rail, one of said elements being provided with a tie abutting flange.

6. A rail anchor comprising a yoke adapted to extend around the base of a rail and a bowed elastic tongue which intervenes between the yoke and the rail base so as to be put under pressure when the device is in operative position on the rail, one of said elements being provided with a tie abutting flange.

7. A rail anchor comprising a yoke adapted to extend around the base of a rail, and a tie abutting plate formed with a bowed tongue which is put under tension by said yoke when the device is in operative position on the rail.

8. A rail anchor comprising a yoke adapted to extend around the base of a rail and an elastic tongue which intervenes between the yoke and the under surface of the base of said rail so as to be put under pressure when the device is in operative position on the rail, one of said elements being provided with a tie abutting flange.

9. A rail anchor comprising a yoke adapted to extend around the base of a rail and a bowed elastic tongue which intervenes between the yoke and the under surface of the base of said rail so as to be put under pressure when the device is in operative position on the rail, one of said elements being provided with a tie abutting flange.

10. A rail anchor comprising a yoke adapted to surround the base of a rail, and a tie abutting plate formed with a bowed

tongue which intervenes between the yoke and the under surface of the base of said rail.

11. A rail anchor comprising a yoke adapted to surround the base of a rail, and a tie abutting plate formed with a bowed tongue, tapered backwardly from said plate, which intervenes between the yoke and the under surface of the base of said rail.

12. A rail anchor comprising a yoke adapted to extend around the base of a rail and an elastic tongue, tapered longitudinally, which intervenes between the yoke and the rail base so as to be put under pressure when the device is in operative position on the rail, one of said elements being provided with a tie abutting flange.

13. A rail anchor comprising a yoke formed with integral jaws adapted to engage opposite edges of the base of a rail, and an elastic tongue which intervenes between the yoke and the rail base so as to be put under pressure when the device is in operative position on the rail, one of said elements being provided with a tie abutting flange.

14. A rail anchor comprising rail gripping elements slidable on each other lengthwise of the rail and in such resilient engagement with each other that the co-engaging tension between said members will be increased by a relative sliding movement on each other in either direction lengthwise of the rail thereby increasing the grip of the device upon the rail.

15. A rail anchor comprising rail gripping elements slidable on each other length-

wise of the rail one of which is a spring so engaged and put under tension by the other when in operative engagement with the rail that such tension will be increased by a relative sliding movement between said elements in either direction lengthwise of the rail.

16. A rail anchor comprising elements relatively slidable lengthwise of the rail which together provide elastic rail gripping means adapted to be put under increased gripping tension by a relative sliding movement between said members in either direction lengthwise of the rail.

17. A rail anchor comprising co-engaging elements relatively movable lengthwise of the rail which together provide elastic rail gripping means, one of said elements being provided with a tie abutting flange and the movement of the other thereon away from said tie abutting flange operating to increase the hold of said rail gripping means on the rail.

18. A rail anchor comprising co-engaging elements relatively movable lengthwise of the rail which together provide elastic rail gripping means, one of said elements being provided with a tie abutting flange and the movement of the other in either direction to or from said abutting flange operating to increase the hold of said rail gripping means on the rail.

FREDERICK A. PRESTON.

Witnesses:

C. O. SHEPHERD,
HELENE HOSFIELD.