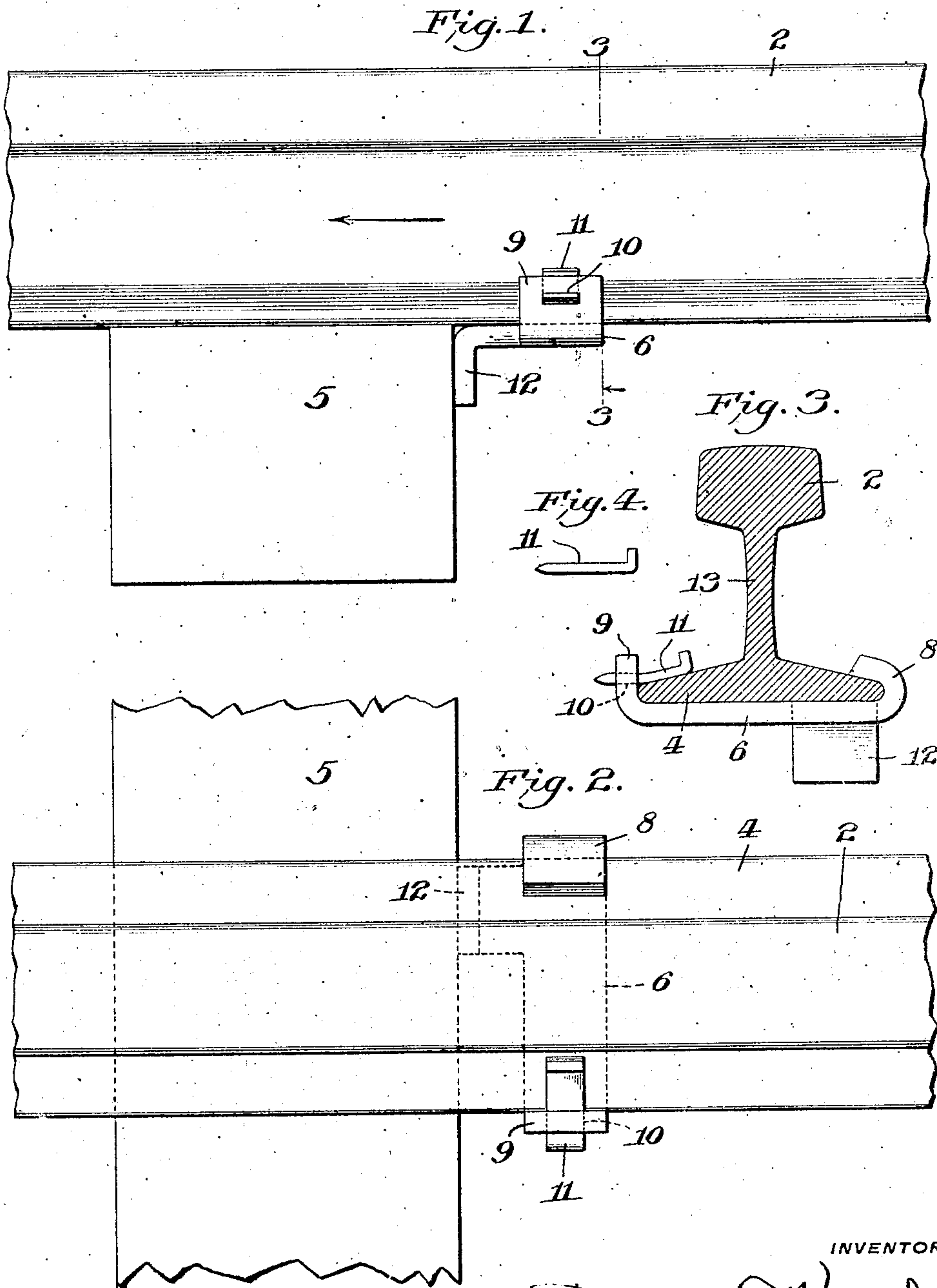


D. F. VAUGHAN.
 ANTICREEPING DEVICE FOR RAILROAD RAILS.
 APPLICATION FILED JAN. 19, 1909.

923,388.

Patented June 1, 1909.

2 SHEETS—SHEET 1.



WITNESSES

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Fig. 5.

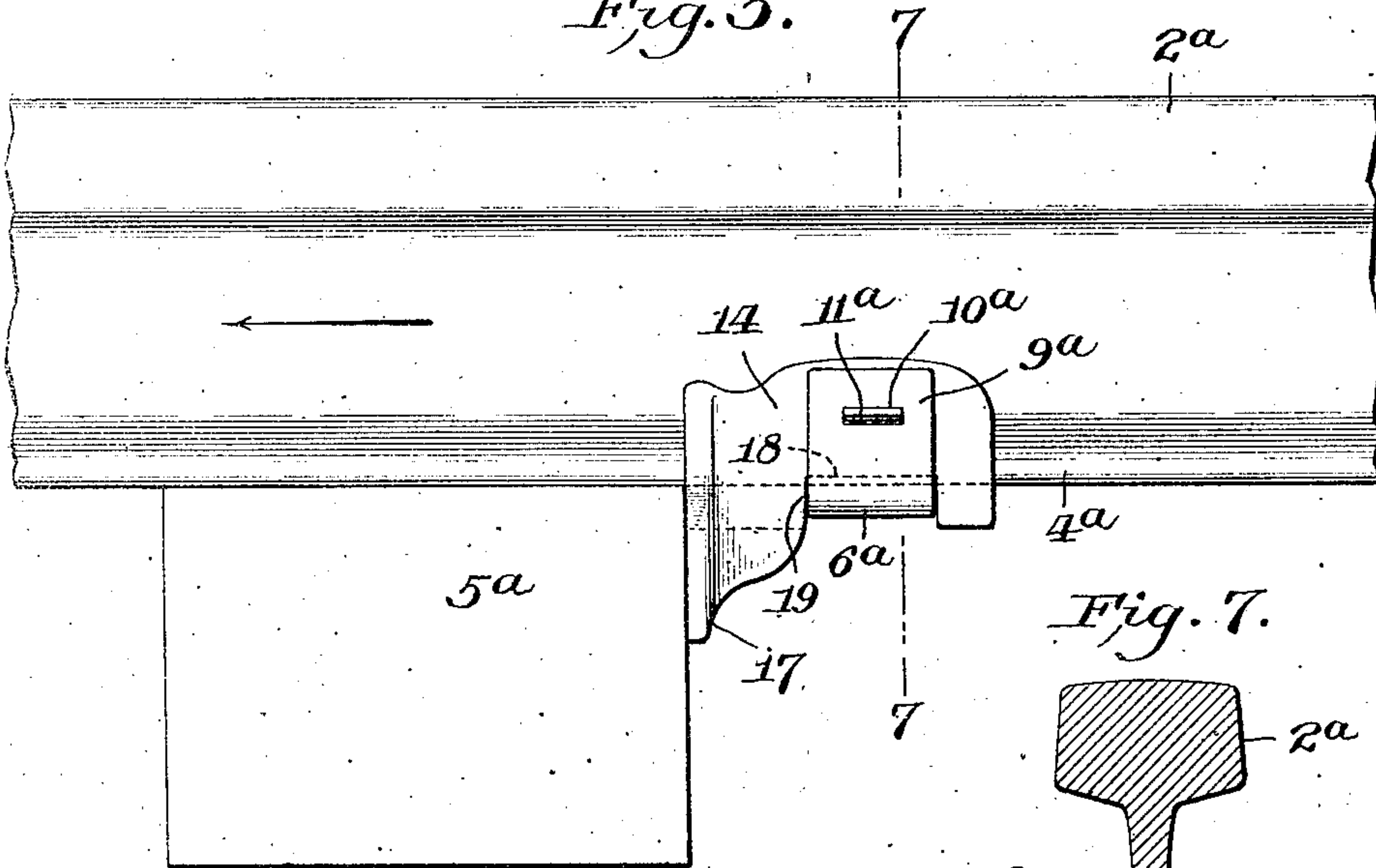


Fig. 7.

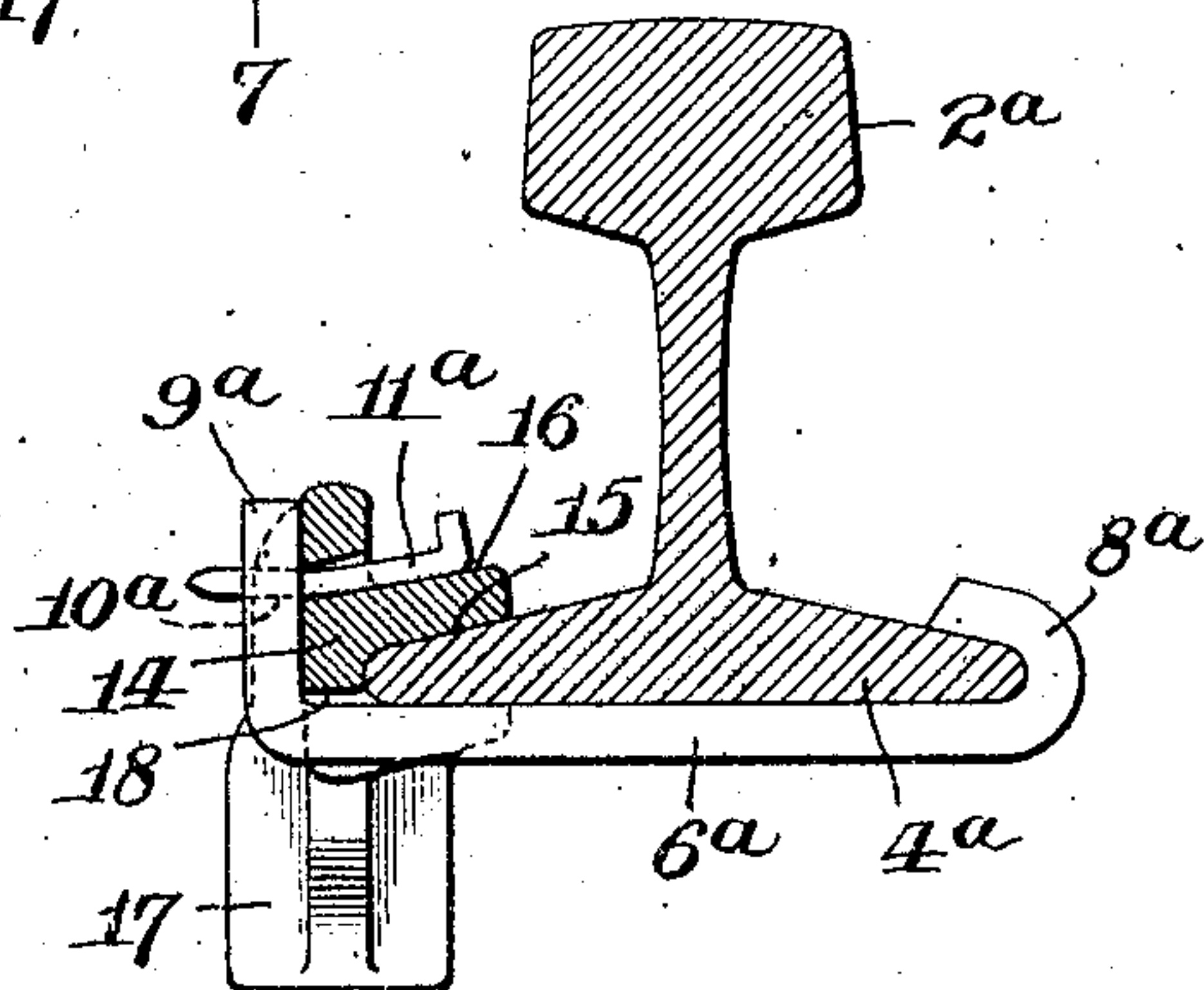
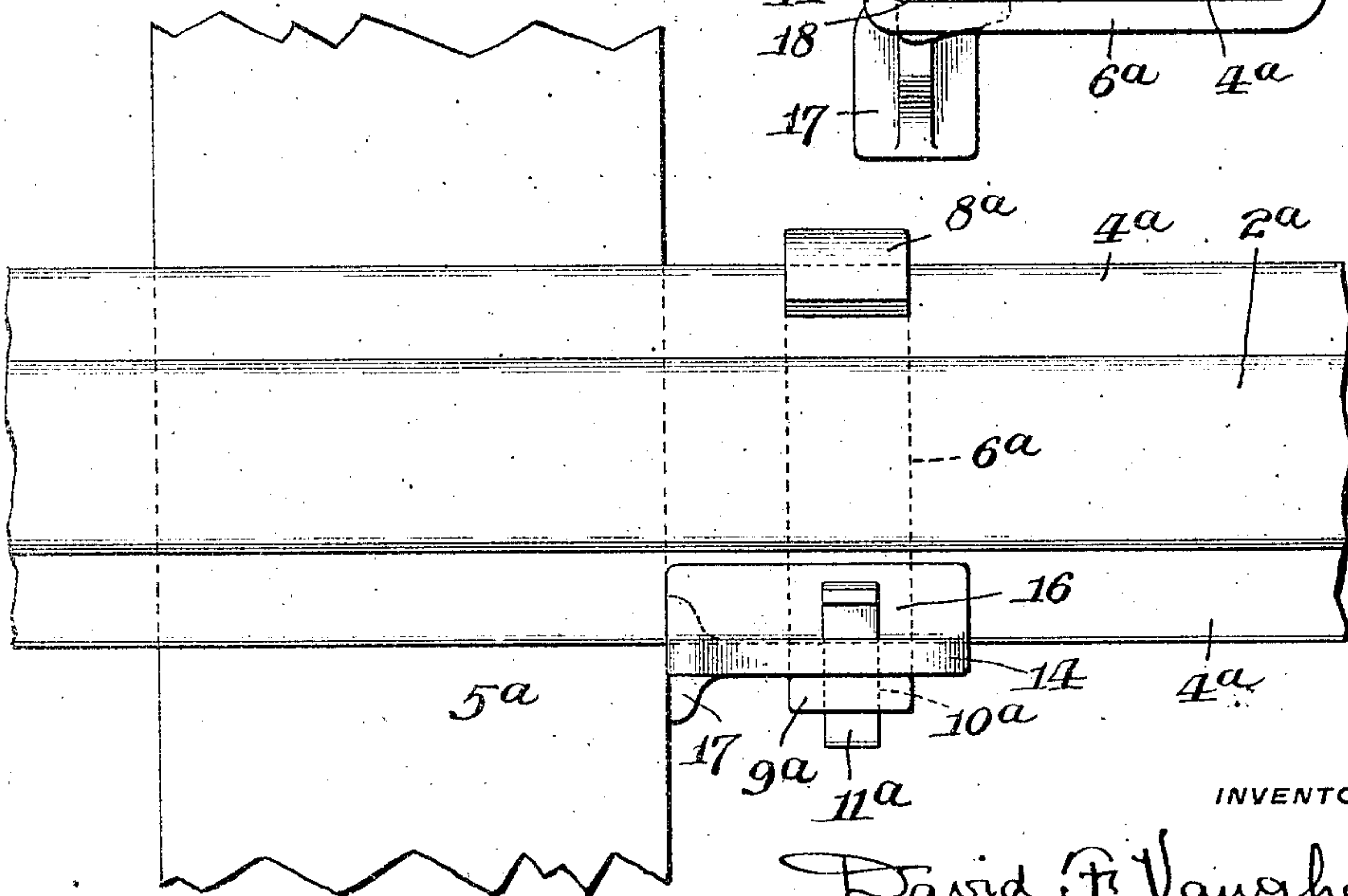


Fig. 6.



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ANTICREEPING DEVICE FOR RAILROAD-RAILS.

No. 923,388.

Specification of Letters Patent.

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Application filed January 19, 1909. Serial No. 473,120.

To all whom it may concern:

Be it known that I, DAVID F. VAUGHAN, citizen of the United States, and resident of Haddonfield, in the county of Camden and State of New Jersey, have invented certain new and useful Improvements in Anticreeping Devices for Railroad-Rails, of which the following is a full, clear, and exact description.

This invention relates to anti-creeping devices for railroad rails.

The object of the invention is to provide a simple, durable and efficient device which may be readily applied to a railroad rail, and which, when applied thereto, will firmly grip the rail and prevent creeping of the rail by the gripping action of the device thereon and the engagement of the device with a cross-tie supporting the rail, as will be hereinafter fully described and particularly pointed out in the claims.

In the drawings:—Figure 1 is a side elevation of a portion of a railroad rail, an underlying cross-tie, and an anti-creeping device applied to the rail, showing one form of embodiment of my invention. Fig. 2 is a plan view thereof. Fig. 3 is a vertical section as on the line 3—3 of Fig. 1. Fig. 4 is a view of the spring member detached from the device. Fig. 5 is a side elevation of a portion of a railroad rail, an underlying cross-tie, and an anti-creeping device applied to the rail, showing another form of embodiment of my invention. Fig. 6 is a plan view of the parts shown in Fig. 5. Fig. 7 is a vertical section as on the line 7—7 of Fig. 5.

Referring to Figs. 1, 2, 3, and 4: 2 designates a railroad rail including the usual base 4, and 5 designates an underlying cross-tie supporting the rail 2. Extending transversely beneath the rail base 4 near the cross-tie 5 is a bar 6 provided with rail-engaging parts adapted to engage the respective sides of the rail base 4. One end of the bar 6 is bent upwardly and then inwardly and forms a rail-gripping jaw 8 adapted to receive and grip one side of the rail base 4; and the other end of the bar is bent upwardly and forms a projection 9 extending upwardly from the bar 6 and adapted to engage the other side of the rail base 4. The projection 9 is provided with an opening 10 therein which extends horizontally through the projection, and forced into the opening 10 is a spring member 11, which is formed of spring metal and which, when

forced into the horizontal opening 10 over the upper, inclined face of the rail base 4, is caused to bend from its condition shown in Fig. 4 to the condition shown in Fig. 3, thus exerting a downward pressure upon the rail base 4 and an upward pressure upon the projection 9 and perforce the adjacent end of the bar 6. This upward pressure on the projection 9 on one end of the bar 6 forces downwardly the jaw 8 on the other end of the bar 6, and causes said bar and said jaw to firmly grip the rail base 4. Projecting forwardly or toward the cross-tie 5 from the bar 6 adjacent one end thereof is a tie-engaging arm or part 12 which abuts against the cross-tie 5 and maintains said end of the bar 6 out of engagement therewith. It will thus be seen that the bar 6 is not only firmly gripped upon the rail base 4 by the action of the spring key 11, but that any forward creeping of the rail 2 in the direction of the arrow in Fig. 1 will carry with it the end of the bar 6 provided with the projection 9, while the other end of the bar 6 will be retarded by the arm 12 engaging the cross-tie 5, thus throwing the bar 6 into a slightly diagonal position across the rail base 4 and causing the projection 9 and jaw 8 to more firmly grip said base.

The shape, size, and strength of the spring member 11 may be varied to suit requirements, and the strength of the member may be such that the throwing of the bar 4 into diagonal position to increase its gripping action by the forward creeping of the rail may be dispensed with, in which case the forwardly-extending tie-engaging arm 12 may also be dispensed with, and the bar 6 itself or a part extending downwardly therefrom may engage the cross-tie 5.

In assembling the parts, the jaw 8 is first hooked over one side of the rail base 4, the bar 6 is then raised into engagement with the bottom of said base to bring the inner face of the projection 9 against the other side of the rail base 4, and this being done, the spring member 11 is forced into the opening 10 by any suitable tool which, while forcing the member 11, may be backed against the web 13 of the rail.

Referring to Figs. 5, 6, and 7: 2^a designates a railroad rail including the usual base 4^a, and 5^a designates an underlying cross-tie supporting the rail 2^a. Extending transversely beneath the rail base 4^a near the cross-tie 5^a, is a bar 6^a provided with rail-

engaging parts adapted to engage the respective sides of the rail base 4^a. One end of the bar 6^a is bent upwardly and then inwardly, and forms a rail-gripping jaw 8^a, adapted to receive and grip one side of the rail base 4^a; and the other end of the bar 6^a is bent upwardly and forms a projection 9^a extending upwardly from the bar 6^a and adapted to engage a shoe 14 which extends beneath and over the rail base 4^a, providing a rail-gripping jaw adapted to receive and grip the side of the rail base 4^a adjacent the upturned end 9^a of the bar 6^a. The shoe 14 is interposed between the upturned end 9^a of the bar 6^a and the side of the rail base 4^a and the withdrawal of the jaw 15 from engagement with the side of the rail base 4^a is prevented by the inner face of the projection 9^a engaging the outer face of the shoe 14 when the parts are in the position shown. The projection 9^a is provided with an opening 10^a therein which extends horizontally through the projection, and leading to the lower wall of the opening 10^a is the upper, inclined face 16 of the shoe 14. Forced into the opening 10^a is a normally straight spring member 11^a which is formed of spring metal and which, when forced into the horizontal opening 10^a over the upper, inclined face 16 of the shoe 14, is caused to bend from its straight condition to the condition shown in Fig. 7, thus exerting a downward pressure upon the shoe 14 and perforce the rail base 4^a, and an upward pressure upon the projection 9^a and perforce the adjacent end of the bar 6^a. This upward pressure on the projection 9^a on one end of the bar 6^a forces downwardly the jaw 8^a on the other end of the bar 6^a, and causes said bar and said jaw to firmly grip the rail base 4^a; and also the downward pressure of the spring member 11^a upon the shoe 14 causes said shoe to firmly grip the rail base 4^a. The shoe 14 extends forwardly or toward the cross-tie 5^a from the bar 6^a adjacent one end thereof, and the forward end of the shoe 14 is provided with a downwardly extending part or flange 17 which abuts against the cross-tie 5^a and maintains the adjacent end of the bar 6^a out of engagement therewith. It will thus be seen that any forward creeping of the rail 2^a in the direction of the arrow in Fig. 5 will carry with it the end of the bar provided with the jaw 8^a, while the other end of the bar will be retarded by the shoe 14, thus throwing the bar 6^a into slightly diagonal position across the rail base, causing the jaw 8^a and shoe 14 to be forced inwardly toward the rail base 4^a and more firmly grip the same. The bar 6^a extends through a notch 18 in the shoe 14, so that during the initial creeping movement of the rail 2^a the wall 19 of the notch 18 will engage one end of the bar 6^a to retard its movement with the rail 2^a, while the other end thereof moves forwardly, thus causing

the slightly diagonal disposition of the bar 6^a and the consequent gripping action of the jaws 8^a and 15.

In assembling the parts, the jaw 8^a is first hooked over one side of the rail base 4^a, and the jaw 15 of the shoe 14 is applied to the other side of the rail base 4^a. The bar 6^a is then raised into the notch 18 of the shoe 14 and into engagement with the bottom of said base, to bring the inner face of the projection 9^a against the outer face of the shoe 14; and this being done, the spring member 11^a is forced into the opening 10^a by any suitable tool.

An important feature of my invention is combining with the spring member the holding of the rail-engaging parts at each end of the bar against movement away from each other by the bar itself acting directly on the rail-engaging parts; that is to say, the rail-engaging parts may be formed integral with the bar, as shown in Fig. 3, or one or both of the parts may be acted upon by the bar itself acting directly against one or both of the rail-engaging parts to prevent movement of said parts in a direction away from each other, as shown in Fig. 7. This construction, omitting other additional parts between the bar and one or both of the rail gripping parts, provides a very firm and rigid anti-creeping device which is not liable to loosen its grip upon the rail by the jarring of the rail during the passage of car wheels thereover; and this feature is particularly desirable when the bar is caused to assume a slightly diagonal position across the rail base to cause the rail-engaging parts to firmly grip the base of the rail.

While two desirable and practicable forms of my invention are shown and described herein, I desire it to be understood that I do not limit myself to these particular constructions, as the same may be greatly modified without departing from my invention, and particularly the shape and size of the spring member is capable of wide variation without departing from my invention.

I claim:—

1. In an anti-creeping device for railroad rails, the combination, with a rail, of a cross-bar extending beneath the rail base, means on one end of said bar for engaging one side of said base, means on the other end of said bar for engaging the other side of said base, and a spring member exerting pressure against said rail in one direction and pressure against said bar in a reverse direction and holding one of said base-engaging means in engagement with said base.

2. In an anti-creeping device for railroad rails, the combination, with a rail, of a cross-bar extending beneath the rail base, a jaw on one end of said bar for receiving and engaging one side of said base, means on the other end of said bar for engaging the other side of

said base, and a spring member exerting an upward pressure on the last named end of said bar and a downward pressure on said rail.

3. In an anti-creeping device for railroad rails, the combination, with a rail, of a cross-bar extending beneath the rail base, means on one end of said bar for engaging one side of said base, means on the other end of said bar for engaging the other side of said base, said means being held against movement away from each other by said bar acting directly on said means, and a spring member exerting pressure against said rail in one direction and pressure against said bar in a reverse direction and holding one of said base-engaging means in engagement with said base.

4. In an anti-creeping device for railroad rails, the combination, with a rail, of a cross-bar extending beneath the rail base, and having an upwardly-extending projection on one end thereof and a jaw on the other end thereof for receiving and engaging one side of said base; and a spring member engaged with said projection and exerting a downward pressure on said rail and an upward pressure on said projection.

5. In an anti-creeping device for railroad rails, the combination, with a rail, of a cross-bar extending beneath the rail base, said bar being provided with an integral part engaging one side of the rail base and with an integral part engaging the other side of the rail base, and a spring member exerting pressure against said rail in one direction and pressure against said bar in a reverse direction and holding one of said rail-engaging parts in engagement with said rail.

6. In an anti-creeping device for railroad rails, the combination, with a rail, of a cross-bar extending beneath the rail base, means on one end of said bar for engaging one side

of said base, means on the other end of said bar for engaging the other side of said base, said means being held against movement away from each other by said bar acting directly on said means, a spring member exerting pressure against said rail in one direction and pressure against said bar in a reverse direction and holding one of said base-engaging means in engagement with said base, and a tie-engaging part extending forwardly from said bar adjacent one end thereof.

7. In an anti-creeping device for railroad rails, the combination, with a rail, of a cross-bar extending beneath the rail base, means on one end of said bar for engaging one side of said base, means on the other end of said bar for engaging the other side of said base, a spring member exerting pressure against said rail in one direction and pressure against said bar in a reverse direction and holding one of said base-engaging means in engagement with said base, and a tie-engaging part extending forwardly from said bar adjacent one end thereof.

8. In an anti-creeping device for railroad rails, the combination, with a rail, of a cross-bar extending beneath the rail base, and being provided with a forwardly-extending, tie-engaging part adjacent one end thereof, a jaw on one end of said bar for receiving and engaging one side of said base, an upwardly-extending projection on the other end of said bar for engaging the other side of said base, and a spring member engaged with said projection and exerting a downward pressure on said rail and an upward pressure on said projection.

In testimony whereof, I have hereunto affixed my signature.

DAVID F. VAUGHAN.

Witnesses:

WM. HARRISON SMITH,
A. V. GROUPE.