

W. A. WALKER.
RAIL ANCHOR.
APPLICATION FILED OCT. 21, 1909.

963,097.

Patented July 5, 1910.

Fig. 1.

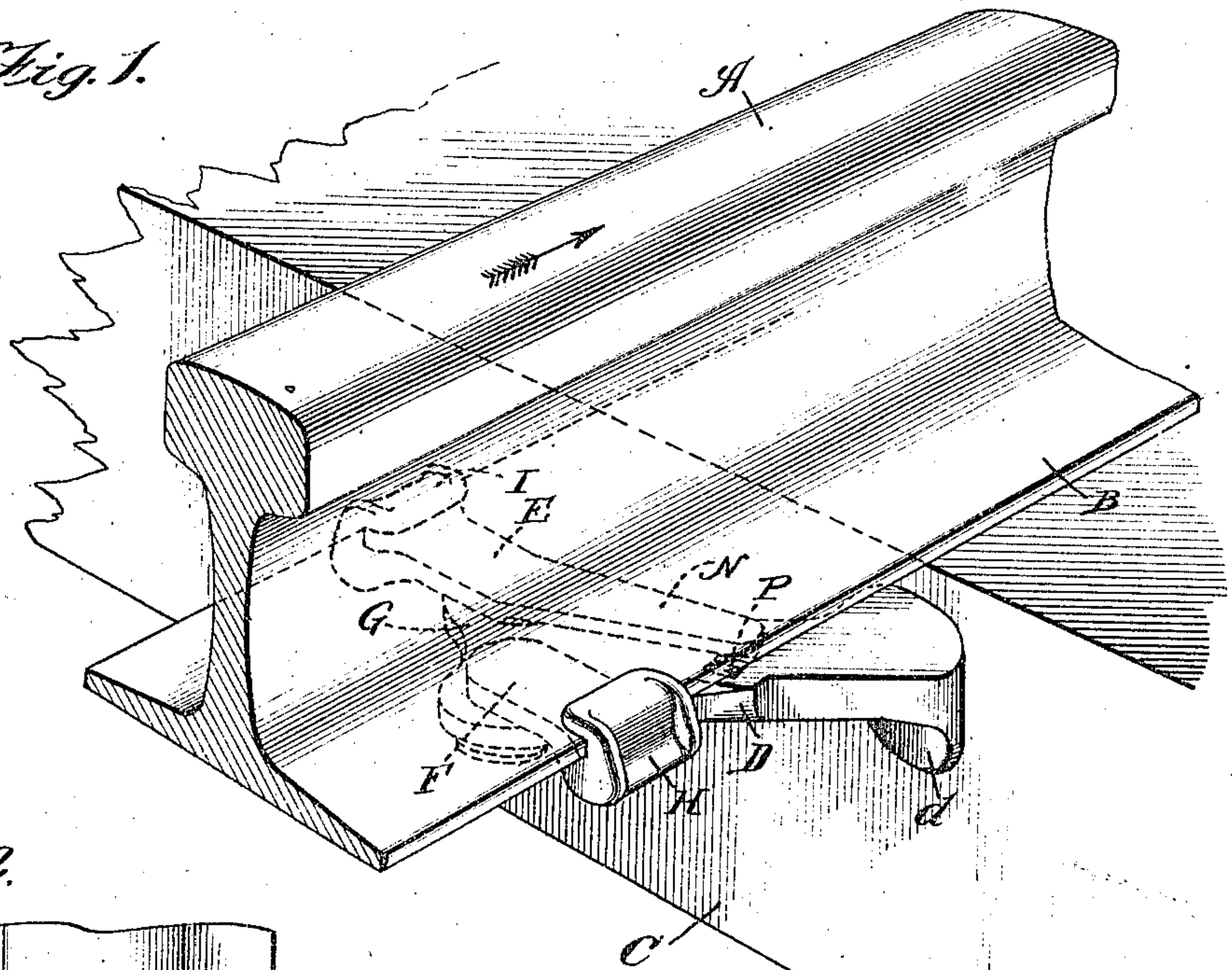
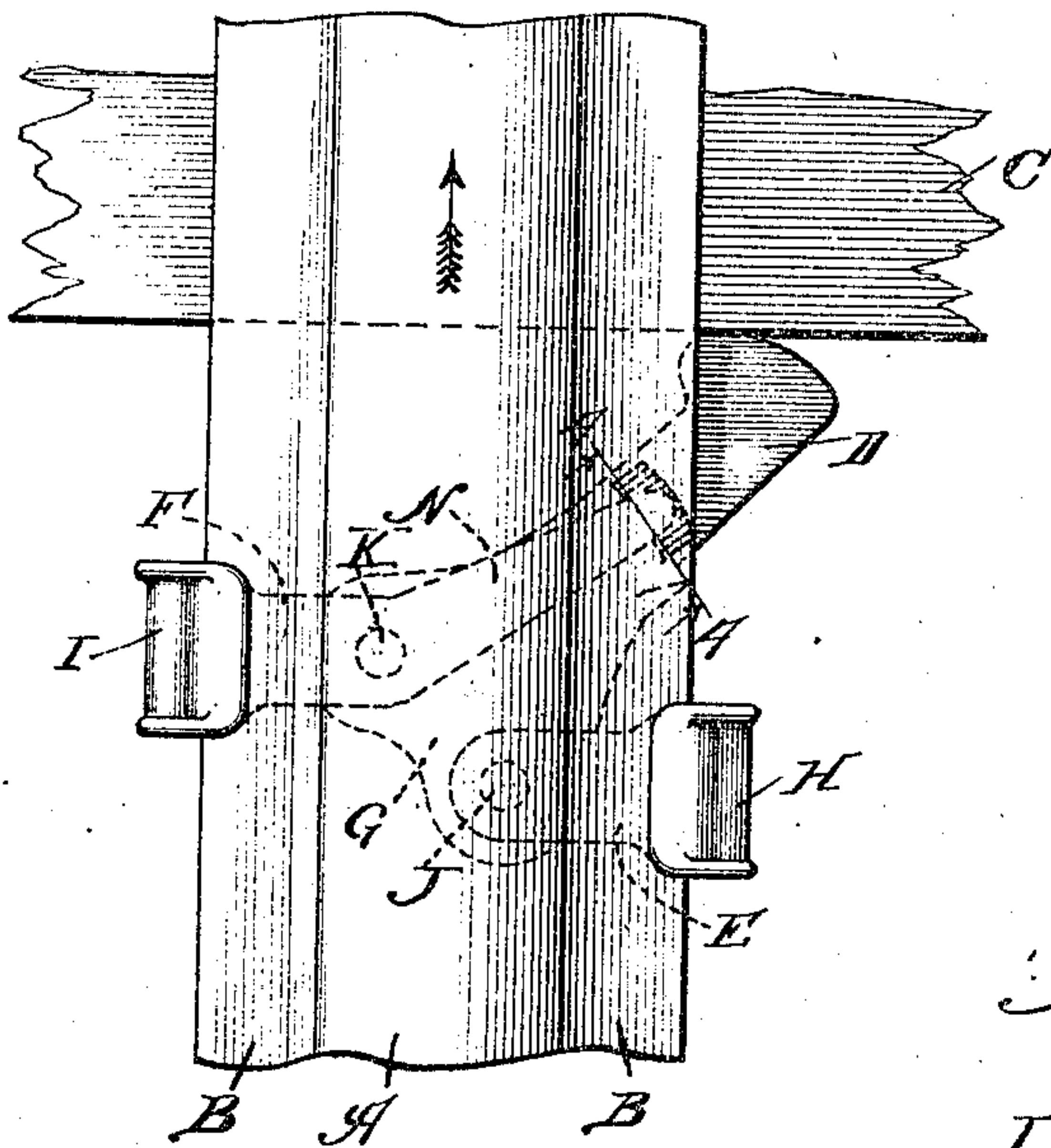


Fig. 2.



UNITED STATES PATENT OFFICE.

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RAIL-ANCHOR.

963,097.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM A. WALKER, a citizen of the United States, residing at Racine, in the county of Racine 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 a rail anchor, sometimes called a rail-stay or anti-creeper, of the type which provides two relatively movable jaws, one on each side of the rail, the lateral grip of which jaws on the rail is increased by the tendency of the rail to creep, so that such tendency is checked thereby; and the invention has for its object to provide a new and improved construction for a rail anchor of this sort which includes simple and effective means for preventing the rail anchor from becoming loose on the rail, either because of the vibration of the rail or its tendency to rebound or react in the direction opposite to that of the trains after the latter have passed over the rails, or from other causes.

The invention in a preferred embodiment is illustrated in the accompanying drawings, wherein—

Figure 1 is a perspective view of the rail anchor of my invention in position on the rail. Fig. 2 a plan view of the same. Fig. 3 a front elevation of the same showing the rail in section, and Fig. 4 a section taken on line 4—4 of Fig. 2, looking in the direction of the arrows.

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

Referring to the drawings, A represents a rail having the base or flanges B; and C, one of the cross ties upon which the rail rests. The rail stay consists of a tie abutting member D, preferably formed at one end with the depending flange d, and two jaw members E and F which are pivoted to the enlarged end G of the tie-abutting member. The jaw members E and F are provided with the jaws H and I respectively, which extend around the opposite edges of the rail base B and may be of any preferred form and construction. The pivotal connections between the tie-abutting member D and the members E and F may be made in any desired manner. For example, I have shown

the members E and F formed with the studs J and K respectively, which extend through openings in the enlarged end G of the tie-abutting member and are riveted over at j, k, respectively, on the washers L and M.

With a device so constructed and with the travel of the trains in the direction indicated by the arrow in Fig. 1, the creeping of the rail in the manner which is well understood, and in the direction indicated by the arrow, will cause the tie-abutting member D to be pressed tightly against the vertical face of the tie. The jaws H, I will be drawn tightly toward each other as a result and will be caused to tightly grip the rail so that the greater the tendency of the rail to creep, the tighter will be the grip of the jaws. The device will thus be efficient so long as the tie-abutting member D is tightly pressed against the tie, but as is well known in this art, various influences, such for example, as the contraction of the rail under low temperatures, will tend to move the rail slightly in a direction opposite to the direction indicated by the arrow in Fig. 1, and a very slight movement of the rail in this direction will carry the tie-abutting member D away from the tie, and consequently will release the grip of the jaws H and I upon the rail to such an extent that the vibration of a passing train or other causes may readily displace the anti-creeper unless some means are provided for holding the jaws in gripping engagement with the rail when the pressure upon tie-abutting member D is released. Various devices in the way of separate springs and ratchet teeth have been suggested but have proven unsatisfactory because of the multiplication of parts and the liability to break or to have their operation interfered with by dirt, rust, cinders or the like, and it is also understood in this art that for practical purposes it is highly desirable that an anti-creeper shall be completely assembled when shipped and of such a character that none of the parts will become separated, and there can be no loss or wrong assembling of parts.

To provide means for preventing an loosening or unclamping movement of the jaws of the anchor, I provide the jaw member F with an extension N having a tooth O

formed on its under surface which engages a ratchet consisting of teeth P formed on the upper surface of the tie-abutting member D. Preferably, one face *o* of the tooth is substantially perpendicular to the plane of the extension N, while the other surface *o'* is oblique thereto; the teeth P being similarly formed with the vertical faces *p* and the oblique faces *p'*. This allows a relative movement between the tie-abutting member D and the extension N in the direction which gives a closer grip or clamp between the jaws H and I and the rail base B, while preventing movement in the opposite direction.

To facilitate the above action as well as to permit the detachment of the anti-creeper when desired, there is such a loose fit about the pivot K that the tooth-carrying arm N will have a sufficient degree of vertical play to permit the tooth on the arm end either to be in engagement with the ratch teeth P or to be lifted out of engagement therewith when the device is assembled and clamped upon the rail. As shown in Fig. 1, the tooth O will be in engagement with the ratch teeth P and as there is no substantial strain upon the tooth O or the ratch teeth P, the vibration of the rail will not disengage them, but any suitable implement inserted between the tooth-bearing arm N and the body of the member D can pry the said arm and member apart sufficiently to disengage the tooth O from the teeth P and thus permit of the removal of the device from the rail. It will thus be seen that I provide an automatic take-up which will not be accidentally disengaged but which can be manually disengaged whenever desired, and which avoids the use of separate springs and ratchet devices.

The operation of the device is as follows: The anchor is adjusted to the rail so that the tie-abutting member lies diagonally relative to the rail and a tight grip between the jaws and the rail base is effected by hammering or forcing jaw I toward the tie, the tooth O traveling over the teeth P on the upper surface of the jaw member. Obviously, the tendency of the rail to creep forward is checked because the forward movement of the rail, and the consequent turning of the jaw members E and F on their pivots, causes the jaws H and I to approach each other. The grip of the anchor on the rail forces the extension N against the tie-abutting member D and prevents looseness as between the tooth O and the ratchet. The construction of the teeth P of the ratchet and the tooth O on the extension N prevent any relative movement between the jaw member F and the tie-abutting member D in the direction of unclamping. The jaw member F and its extension N form in effect a lever having on one end a rail-gripping jaw and on the other

means for preventing the unclamping of the anchor.

I do not limit myself to the exact devices and constructions shown and described as modifications may be devised which would come within the scope of my invention.

I claim:

1. A rail anchor comprising two members pivoted together and provided with rail-engaging jaws, one of said members formed with a ratch and the other with a tooth which engages the ratch so as to prevent relative movement between the members in the direction of unclamping.
2. A rail anchor comprising two members pivoted one upon the other and provided with rail-engaging jaws, one of said members formed with a ratch on the surface in contact with the other member, and the other member with a tooth which engages said ratch so as to prevent relative movement between the members in the direction of unclamping.
3. A rail anchor comprising two members pivoted one upon the other and provided with rail-engaging jaws, one of said members formed with a ratch on the surface in contact with the other member, and the other member with a tooth which engages said ratch so as to prevent relative movement between the members in the direction of unclamping, said members lying against the under surface of the rail for the purpose described.
4. A rail anchor comprising two members pivoted together, one member being provided with a rigid jaw and the other with a jaw pivoted thereto, and one of said members being formed with a ratch and the other with a tooth which engages the ratch so as to prevent relative movement between the members in the direction of unclamping.
5. A rail anchor comprising two members pivoted together, a jaw pivoted to one of said members, the other of said members being formed with a rigid jaw at one side of the pivotal connection between the jaws, and with means on the other side of said pivotal connection which engages said other member so as to prevent relative movement between the members in the direction of the unclamping.
6. A rail anchor comprising two members pivoted together, a jaw connected with one of said members, the other of said members being formed with a rigid jaw at one side of the pivotal connection between the jaws, and with means on the other side of said pivotal connection which engages said other member so as to prevent relative movement between the members in the direction of unclamping.
7. A rail anchor comprising a tie-abutting member provided with a jaw, and a lever

provided with a jaw at one end and with means on the other end which engages the tie-abutting member so as to prevent relative movement between said member and the lever in the direction of unclamping.

8. A rail anchor comprising a tie-abutting member provided with a jaw pivoted thereto, and a lever formed with an integral jaw on one end and with means on the other end which engages the tie-abutting member so as to prevent relative movement between said member and the lever in the direction of unclamping.

9. A rail anchor comprising a tie-abutting member provided with a jaw pivoted thereto, a lever formed with an integral jaw on one end, and means which prevents relative movement between said member and the lever in the direction of unclamping consisting of a tooth on one of said members and a ratch on the other.

10. A rail anchor comprising a tie-abutting member, two jaw-carrying members pivoted to the same, and an extension on one of said jaw-carrying members which engages the tie-abutting member so as to prevent relative movement of the same in the direction of unclamping.

11. A rail anchor comprising means for abutting against a tie, means for engaging the rail on one side thereof, and a lever provided at one end with means for engaging the rail on the other side thereof, and on the other end with means for locking said lever from movement in the direction of unclamping.

12. A rail anchor comprising two members having rotatable relation with respect to each other and provided with rail gripping jaws, one of said members being provided with a tie abutment, and means in-

tegral with said members, which means by their engagement with each other prevent the relative movement of the members in the direction of unclamping.

13. A rail anchor comprising two members having rotatable relation with respect to each other and provided with rail gripping jaws, one of said members being provided with a tie-abutment; and an integral tooth on one of said members and a series of integral teeth on the other of said members which are engaged by said single tooth so as to prevent the relative movement of the members in the direction of unclamping.

14. A rail anchor comprising two members having rotatable relation with respect to each other and provided with rail gripping jaws, one of said members being provided with a tie abutment, and means integral with said members, which means by their engagement with each other prevent the relative movement of the members in the direction of unclamping, said members being loosely connected, for the purpose specified.

15. A rail anchor comprising two members pivoted together, a jaw connected with one of said members, the other of said members being formed with a rigid jaw at one side of the pivotal connection between the jaws, and with means on the other side of said pivotal connection which engages said other member so as to prevent relative movement between the members in the direction of unclamping; the pivotal connection between said members being loose, for the purpose described.

WILLIAM A. WALKER.

Witnesses:

C. R. CARPENTER,
JOSIAH NORRIS.