

J. A. BODKIN.
RAIL ANCHOR.
APPLICATION FILED JUNE 5, 1911.

1,015,129.

Patented Jan. 16, 1912.

4 SHEETS-SHEET 1.

Fig. 1.

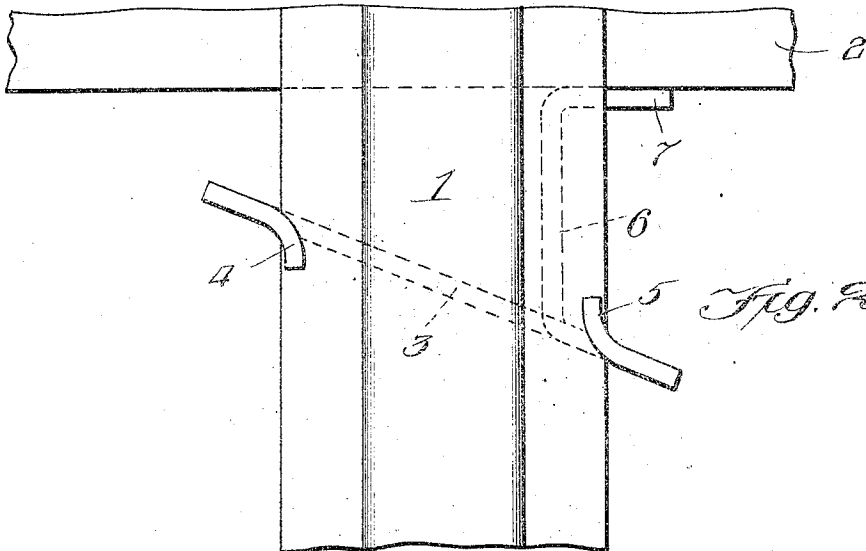
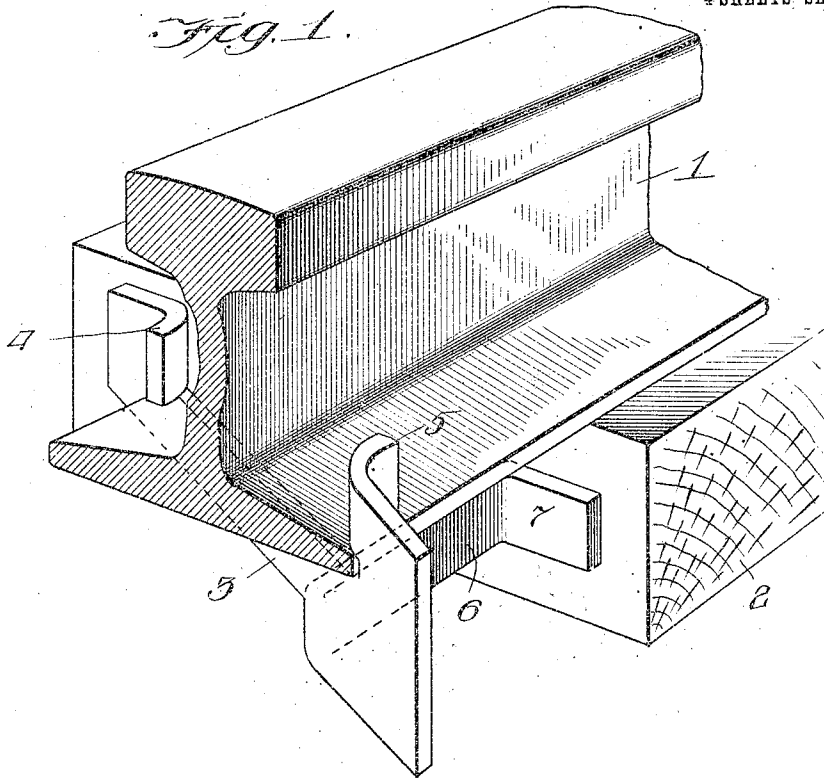


Fig. 2.

Witnesses:

Harry S. Gailther
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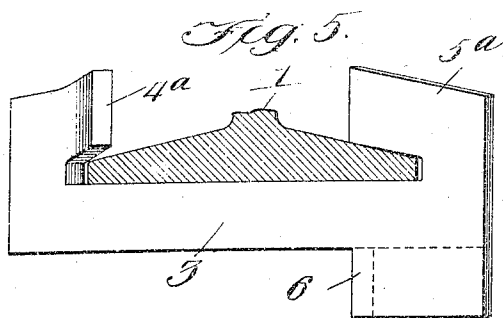
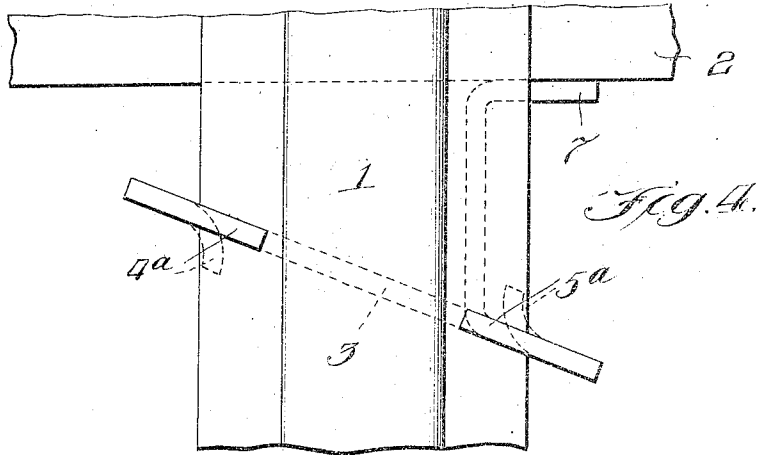
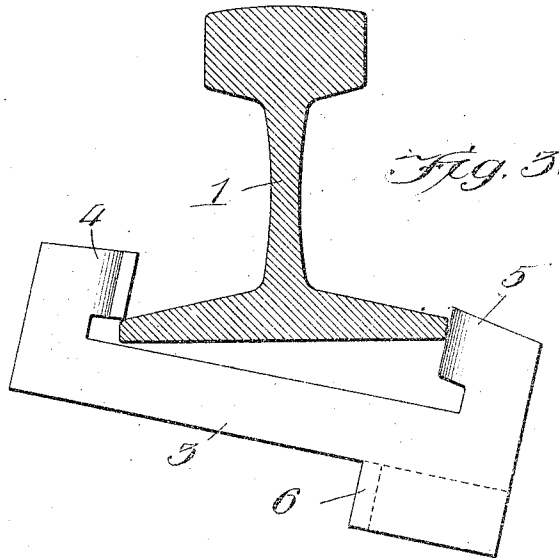
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4 SHEETS—SHEET 2.



Witnesses:

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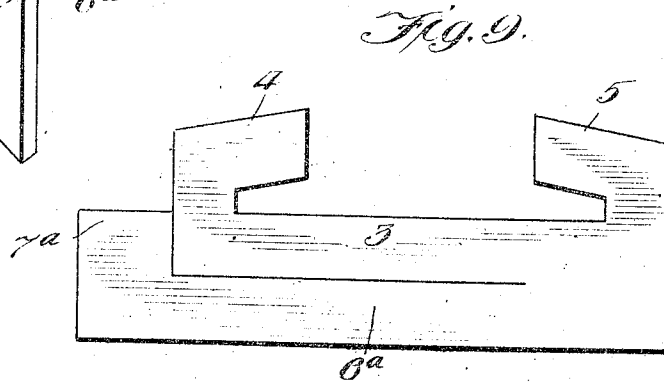
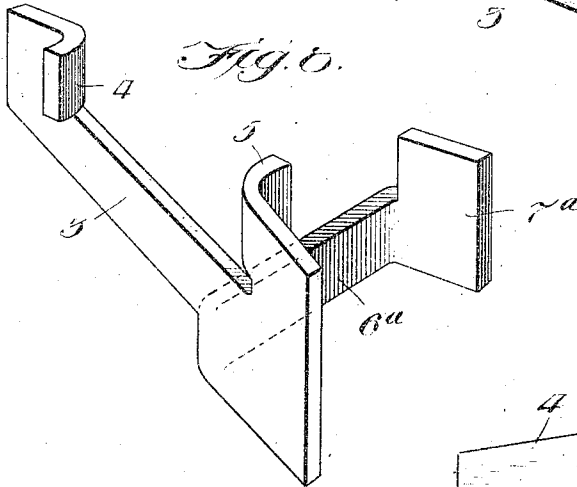
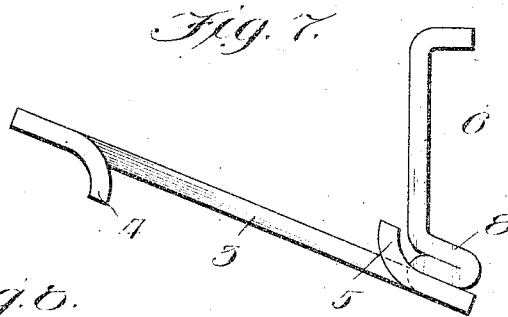
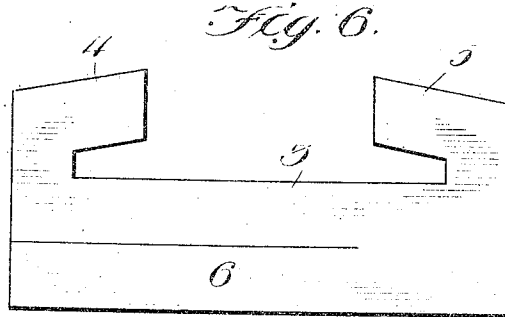
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4 SHEETS—SHEET 3.



Witnesses:

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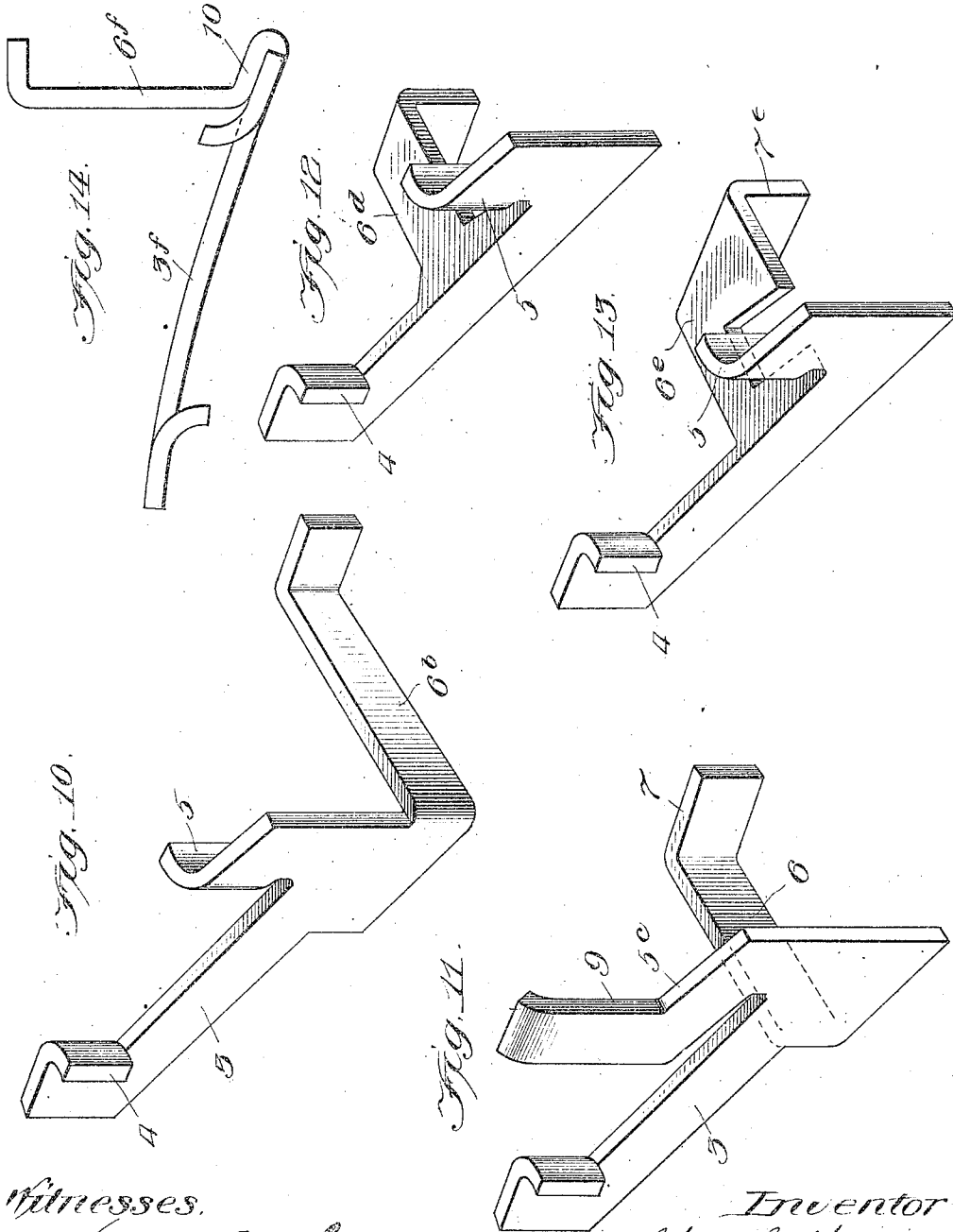
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4 SHEETS—SHEET 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

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RAIL-ANCHOR.

1,015,129.

Specification of Letters Patent.

Patented Jan. 16, 1912.

Application filed June 5, 1911. Serial No. 631,388.

To all whom it may concern:

Be it known that I, JOHN A. BODKIN, a citizen of the United States, residing at New York city, county of New York, State of New York, have invented a certain new and useful Improvement in Rail-Anchors, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to devices for preventing the creeping of rails during the passage of rolling stock, and it has for its object to produce a device which shall be simple in construction, cheap, easily applied, and effective in operation.

The various features of novelty whereby my invention is characterized will herein-after be pointed out with particularity in the claims; but, for a full understanding of my invention and of its object and advantages, reference may be had to the following detailed description taken in connection with the accompanying drawings, wherein:

Figure 1 is a perspective view showing a portion of a railway rail having my improved device applied thereto; Fig. 2 is a plan view of the parts shown in Fig. 1; Fig. 3 is a cross section through a rail showing the mode of applying my improved anchor; Fig. 4 is a view similar to Fig. 2 showing a slight modification; Fig. 5 is a cross section through the base flange of a rail with the anchor illustrated in Fig. 4 partly applied; Fig. 6 is an elevation of the blank from which the anchors illustrated in Figs. 1 to 5 are formed; Fig. 7 is a plan view of a further modified form of anchor; Fig. 8 is a perspective view of a still further modification; Fig. 9 is an elevation of the blank from which the anchor in Fig. 8 is made; Figs. 10, 11, 12 and 13 are perspective views of four other modifications of my invention; and Fig. 14 is a plan view of a still further form of my invention.

In accordance with my invention I construct my improved anchor in its various forms from sheet steel which is cut into blanks and then pressed in dies or otherwise into the desired shapes.

Referring to Figs. 1 to 6 of the drawings, 1 represents a rail and 2 a tie. The anchor is made from a piece of sheet steel of the

form indicated in Fig. 6 which is cut so as to produce a yoke 3 adapted to pass underneath the base of the rail, hooks 4 and 5 adapted to overlie the outer edges of the base flange and a member 6 lying beneath the yoke and adapted to be bent so as to form a post for engaging with the tie. The post member is bent laterally at an acute angle to the yoke and has its free end bent outwardly so as to form a bearing foot of considerable area for engagement with the tie. The hooks are also bent laterally, the hook 5 being preferably bent in the same direction as the post and the hook 4 in the opposite direction. The parts are so shaped and proportioned that when the yoke is placed beneath the rail at right angles to the longitudinal axis of the rail, the base flange of the rail may be inserted between the hooks as indicated in Fig. 3; one side being first slipped under the hook 4 and the anchor being then shifted laterally and raised so as to bring the opposite side of the base flange under the other hook. The anchor is then slipped along the rail until the post engages with the tie in advance of the anchor and then the end upon which the hook is carried is driven forward so as to bring the yoke at an angle to the longitudinal axis of the rail. This causes the hooks to take a firm grip upon the edges of the base flange of the rail, and any tendency of the rail to move forward causes the hook 4 to take a tighter grip so that it will follow any movement which the rail may have. Since the opposite end of the yoke is prevented from moving forward by reason of the engagement of the post with the tie, a forward pull upon the hook 4 causes the yoke to assume a still greater inclination to the longitudinal axis of the rail and consequently produces a still tighter grip upon the rail.

Where the anchors are made of spring steel which do not lend themselves readily to manipulation by the workmen who place the anchors in position, they are manufactured in the final form which they have when in working position upon the rails; but where the anchors are made of the ordinary steel which may be bent by hammering, they may initially be shaped as indicated in Figs. 1 and 2, the hooks being pounded straight again as indicated at 4^a and 5^a in Fig. 4, when the anchors have been applied. Where the hooks are straightened after the

application of the anchors, a longer engaging edge is afforded and therefore an extremely tight grip is obtained.

On the left hand side of Fig. 5 I have shown the hook 4^a in the curved condition before it is bent back into the plane of the yoke, while on the right hand side of Fig. 5 I have illustrated the hook 5^a in its final position. From these views it will be seen how the hooks ride gradually up on the base flanges and grip them with a wedging action.

In both of the forms which I have just described I prefer to make the angles of the under edges of the hooks somewhat smaller than the angles of the top of the base flanges of the rail: for example, where the angle of the base flange is 13 degrees the angle of the under edges of the hooks may be made about 12 degrees. This enables me to obtain a very powerful wedging action as the anchors are swung around at an angle to the longitudinal axis of the rails and carry the hooks farther up on the base flanges.

In Fig. 7 I have shown a slight modification in which a double bend is formed in the post at the point where it leaves the yoke, as indicated at 8.

In Figs. 8 and 9 I have shown an arrangement which gives the foot 7^a on the post 6^a a larger area than in the forms heretofore described. In the blank from which the anchor is made, the post portion projects beyond the end of the anchor carrying the hook 4 and extends upwardly at this point to about the top edge of the yoke. This gives a vertical height to the foot equal to the combined width of the yoke and underlying portion of the post.

In the forms of my invention heretofore described the post has been formed of a strip lying beneath the yoke before the blank is cut out. This brings the post about in line with the outer edge of the base flange of the rail or somewhat within the edge. It may sometimes be desirable to bring the post out beyond the edge of the rail base and in this case the post and the yoke, in the blank, may lie on opposite sides of the shank portion of the hook 5. In Fig. 10 I have illustrated an anchor of this type, the post 6^b projecting laterally from the anchor at one extreme end thereof.

In Fig. 11 I have illustrated a further modification, all of the parts being the same as in Figs. 1 to 6 except the hook member 5^a. In this instance the hook member 5^a is provided with an upward extension 9 adapted to fit under the underside of the head of the rail.

In Figs. 12 and 13 I have shown two different forms of anchors in which the posts are formed by bending downwardly portions of the blank which initially lie between the two hooks of the anchor. In Fig. 12 the

post 6^a consists of a strip one side of which is formed in cutting the hook 5, the strip being of about the same width as the widths of the posts in the forms previously described. In Fig. 13 I have modified the construction of Fig. 12 somewhat in order to obtain a wider foot. In this arrangement the post 6^a is formed in the same manner as the post 6^a but has at its outer end an additional part which overlies the hook 5 in the blank and is severed therefrom in the process of forming the hook. This produces a foot 7^a considerably wider than that illustrated in Fig. 12.

Fig. 14 illustrates a modification of the anchor shown in Fig. 10, the post 6^b being brought nearer to the base of the rail than the post 6^b by reason of a bend 10 in the post at the point where it joins the yoke. In this figure I have also illustrated a further modification which may be made in any of the other forms which I have described. This consists in curving the yoke 3^a instead of leaving it straight. This assists the gripping elements in securing a tight hold upon the rail and in preventing the anchor from being shaken off by the jarring action produced by rolling stock in passing over the rails.

It will be seen that all of the forms of my invention illustrated are extremely simple, requiring merely a cutting operation and a second operation to press the blank into the desired shape, thus making the anchors extremely cheap. Furthermore the anchors are easily applied and cannot be put on wrong. Again, even the most unskilled workman can place an anchor in position in such a manner that it will take a tight hold and will not be in danger of shaking loose, this being for the reason that the gradual wedging action of the hooks on the base flanges of the rails, and the sharp corners of the anchor produced by the shearing or punching operations, cause the anchors to bind tightly upon the rails provided that the workman performs the simple operation of hammering one end of the anchor forward as far as it will go.

I claim:

1. A rail anchor comprising a yoke, rail-engaging members and a post all cut out of a sheet of steel, the post being bent at an angle to the yoke.

2. A rail anchor comprising a yoke, rail-engaging hooks at the ends of and above the yoke, and a post all cut out of a sheet of steel, the post being bent at an angle to the yoke.

3. A rail anchor comprising a yoke, rail-engaging members and a post all cut out of a sheet of steel, the post being bent at an angle to the yoke, and the free end of the post being bent laterally to form a foot for engaging with a tie.

4. A rail anchor comprising a yoke, rail-

engaging hooks at the ends of and above the yoke, and a post all cut out of a sheet of steel, the post being bent at an angle to the yoke, and one of the hooks being bent laterally out of the plane of the yoke.

5 5. A rail anchor comprising a yoke, rail-engaging hooks at the ends of and above the yoke, and the post all cut out of a sheet of steel, the post being bent at an angle to the yoke, said hooks being bent laterally in opposite directions relative to the plane of the yoke.

10 6. A rail anchor comprising a yoke, rail-engaging hooks at the ends of and above the yoke, and a post all cut out of a sheet of steel, the post being attached at one end near one end of the yoke and being bent at an angle to the yoke.

15 7. A rail anchor comprising a yoke, rail-engaging hooks at the ends of and above the yoke, and a post all cut out of a sheet of steel, the post being bent at an angle to the

yoke, the yoke being bent into a horizontal curve.

8. A rail anchor comprising a yoke, rail-engaging hooks at the ends of and above the yoke, and a post all cut out of a sheet of steel in such a manner as to leave sharp corners on the rail-engaging portion, the post being bent at an angle to the yoke.

9. A rail anchor comprising a yoke, rail-engaging hooks at the ends of and above the yoke, and a post all cut out of a sheet of steel, the post being bent at an angle to the yoke, the under edges of the hooks being cut at a somewhat smaller angle than the angle of the upper surface of the base flange of a standard rail.

In testimony whereof, I, sign this specification in the presence of two witnesses.

JOHN A. BODKIN.

Witnesses:

H. LA CROIX,

GUY N. FOSTER.