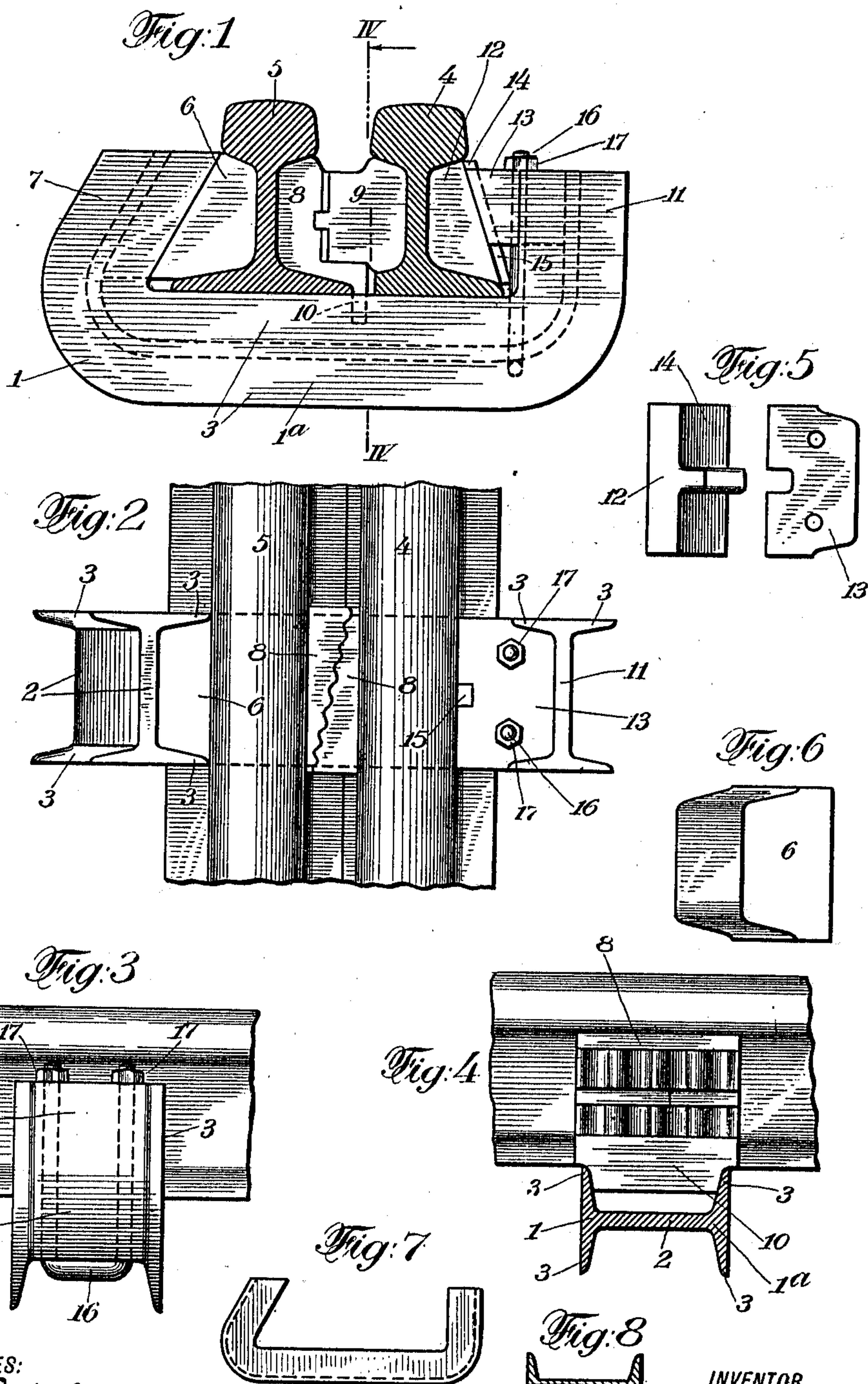


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GUARD RAIL CLAMP.
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993,596.

Patented May 30, 1911.



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GUARD-RAIL CLAMP.

993,596.

Specification of Letters Patent.

Patented May 30, 1911.

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To all whom it may concern:

Be it known that I, GEORGE L. HALL, a citizen of the United States, and resident of the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Guard-Rail Clamps, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

10 Figure 1 is a side elevation of the clamp, the guard rail and track rail being shown in transverse vertical sectional view; Fig. 2 a plan view of the clamp applied to the rails; Fig. 3 an end elevation; Fig. 4 a transverse vertical sectional view of the clamp yoke, showing one of the spacing blocks in position on said yoke; Fig. 5 a detail plan view of the wedge blocks detached from the yoke and slightly separated; Fig. 6 a detail plan view of the filler block; Fig. 7 a side elevation of a slightly different form of clamp yoke; and Fig. 8 a transverse sectional view thereof.

25 The main object of this invention is to provide an efficient guard rail clamp in which the clamping yoke will be very light, but exceedingly strong, and which may be readily adjusted to the rails.

30 A further object of the invention is to provide a yoke having side flanges between which the various parts of the clamp will fit, said flanges serving as a retaining means to hold the various parts in position against lateral displacement.

35 A further object of the invention is to form the yoke of I-beam shape in cross section, thereby forming an extremely stiff and durable yoke capable of withstanding the severe strains to which devices of this kind are subjected when in use.

Another object of the invention is to form the yoke of a standard rolled I-beam section, said section being suitably bent to form the yoke.

45 Referring to the various parts by numerals 1 designates the clamp yoke which in cross section corresponds to the section of a standard I-beam. I form this yoke by bending a proper length of standard I-beam in any suitable manner. It will thus be seen that I form a yoke having a central web 2 and oppositely disposed side flanges 3 at each edge of the web. The guard rail 4 and the track rail 5 rest on the upper edges of the flanges 3 of the main portion 1^a of the yoke, as shown clearly in Fig. 1. A

filler block 6 is interposed between the track rail and the adjoining upwardly and inwardly extending end 7 of the yoke. The filler block 6 is reduced at its outer end to fit within the channel formed by the side flanges 3 of the yoke. By this means the said filler block is held in its proper relation to the yoke, and cannot become accidentally disengaged therefrom.

65 Between the track rail and the guard rail the usual tapered spacing blocks 8 and 9 are employed. These blocks are corrugated on their adjoining contacting faces to prevent independent lateral movement of said blocks, and the block 8 is formed with a depending lug 10 which is adapted to fit between the side flanges 3 of the main body of the yoke and to thereby prevent lateral movement of the spacing blocks.

75 Between the upturned end 11 of the yoke and the outer side of the guard rail I place the clamping wedges 12 and 13. The clamp 12 engages the outer surface of the guard rail and is formed with a downwardly and outwardly inclined outer surface 14, an outwardly extending rib 15 being formed on the said inclined face. The movable wedge 13 is provided with a downwardly and outwardly inclined inner surface which is adapted to fit and slide on the correspondingly inclined outer surface of the wedge 12, and the inner face of the wedge 13 is formed with a groove to receive the rib on the wedge 12. The outer portion of the movable wedge is reduced to adapt it to fit snugly within the channel formed by the side flanges 3 of the clamp yoke, whereby said clamp wedge will be held against lateral movement by said flanges.

95 To provide means for drawing the movable clamp wedge downwardly I provide a U-bolt 16 which is passed upwardly through openings in the web 2, as indicated clearly in Figs. 1 and 3, the arms of said U-bolt passing upwardly through apertures in the movable wedge 13. Clamping nuts 17 are screwed on the upper ends of the said arms and are adapted to force downwardly the movable clamping wedge. The arms of the U-shaped bolt are within the side flanges 3 of the clamp yoke as indicated clearly in Fig. 3, and are protected by said flanges.

110 It will, of course, be understood that the filler blocks may be of any suitable shape and size, and that the clamping wedges may be varied as to form, and that other means

than the U-shaped bolt may be employed for adjusting the movable wedge, I, therefore, wish it understood that I am not to be limited to the precise form of the filler blocks or wedge pieces shown and described.

By forming the yoke from a standard rolled I-beam section and bending it up to proper shape, I provide a yoke having great strength, and yet which is light and which may be readily and cheaply manufactured. It will also be noted that the flanges form a channel on the upper and inner sides of the yoke which are adapted to partly receive the filler blocks and clamping wedges so that said parts are protected by the flanges and held against lateral displacement.

In Figs. 7 and 8 is shown a yoke formed from a channel iron, the flanges being turned upwardly or toward the inner side of the yoke to form a channel for the reception of the spacing blocks and filler pieces and wedge blocks. In making up this form of the yoke a standard rolled channel iron may be used cut to the proper length and then bent into the desired form.

What I claim is:

1. A guard rail clamp comprising a yoke formed with a central longitudinal web, side flanges formed on the edges of said central web and serving to strengthen said web, a filler block, spacing blocks and clamping devices adapted to fit between said flanges whereby said flanges will prevent the lateral displacement of said parts, and means for adjusting one of the clamping devices said means engaging the yoke.

2. A guard rail clamp comprising a yoke formed of an I-beam section bent upwardly at its ends to form the rail retaining means, filler blocks, spacing means, and a clamping means adapted to engage the rails and to fit the channel formed by the side flanges of the said I-beam section and to prevent the lateral displacement of the said clamping devices.

3. A yoke for a guard rail clamp comprising an I-beam section bent upwardly at its ends to form the rail retaining portions whereby said yoke will be provided with a channel on its inner side.

4. A guard rail clamp comprising a yoke formed of an I-beam section bent upwardly at its ends to form the rail retaining portions, said yoke having a channel on its inner side, a filler block adapted to fit between the side flanges of one upwardly bent part of the yoke and to engage the track rail, a pair of spacing blocks adapted to be arranged between the guard rail and the track rail, one of said blocks being provided with a depending lug adapted to fit the channel in the yoke, and a pair of clamping wedges, one being adapted to engage the guard rail and the other being movable and adapted to fit between the flanges of the adjoining end

of the clamp yoke, and a bolt carried by the yoke and adapted to adjust the movable clamping wedge, the said bolt being arranged between the side flanges of the yoke.

5. A guard rail clamp comprising a yoke, formed with a central web and side flanges, whereby said yoke will be provided with channels on the inner and outer sides of said web, a rail clamping means adapted to engage the rails, a portion of said clamping means being adapted to engage the flanges of the yoke to prevent lateral displacement of said clamping means.

6. A guard rail clamp comprising a rolled I-beam section having its ends bent upwardly to form the rail retaining arms whereby a channel will be formed on the inner side of said yoke, and an adjustable rail clamping means adapted to engage the rails and to fit between the flanges of the yoke.

7. A guard rail clamp comprising a yoke I-shaped in cross section throughout all points in its length, and having the main horizontal body portion to receive the guard rail and the track rail and two upwardly bent ends to form the rail retaining portions, and adjustable rail clamping means said clamping means being adapted to fit in the channel formed by the side flanges of the yoke whereby said clamping means cannot be shifted laterally and disengaged from the yoke.

8. A guard rail clamp comprising a yoke formed with a central web and side flanges connected to said web, the ends of said web and the side flanges being bent upwardly to form rail retaining portions, the main portion of the flanges between said bent portions forming the rail supporting means, a filler block adapted to be arranged between one end of the yoke and the track rail, said filler block being formed with a portion adapted to fit between the flanges of the yoke, a two part spacing means adapted to be arranged between the track rail and the guard rail, one of said parts being provided with a depending lug to fit between the side flanges of the yoke, and a pair of clamping wedges, one of said wedges being adapted to engage the guard rail and the other being arranged to engage the adjoining end of the yoke and the other clamping wedge, and means connected to the yoke for adjusting one of the said clamping wedges.

9. A guard rail clamp comprising a clamp yoke having a web whose transverse dimension is adapted to lie parallel with the rails, side flanges integral with said web at the edges thereof, said side flanges being perpendicular to the central web and to the rails, said yoke being formed with a lower track supporting portion and two upwardly bent end portions constituting rail retaining parts, a filler block, adjustable spacing pieces, clamp wedges, one of said wedges

being movable upon the other, and a U-bolt passing through the web of the yoke and the movable clamping wedge between the flanges.

- 5 10. A guard rail clamp comprising a yoke formed with a longitudinal web whose transverse dimension, or cross section, is parallel with the rails to be retained by said yoke, side flanges formed on the edges of said web
10 and integral therewith, said flanges extending in the same direction from the longitudinal edges of the web and being perpen-

dicular thereto, whereby said side flanges will be perpendicular to the rails retained by the yoke and will, therefore, strengthen 15 the yoke web.

In testimony whereof I hereunto affix my signature in the presence of two witnesses this 7th day of March 1910.

GEORGE L. HALL.

Witnesses:

WM. R. DAVIS,
F. R. MILLER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
