

E. J. SHOFFNER.
CUSHIONED GUARD RAIL FASTENING.
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Fig. 1.

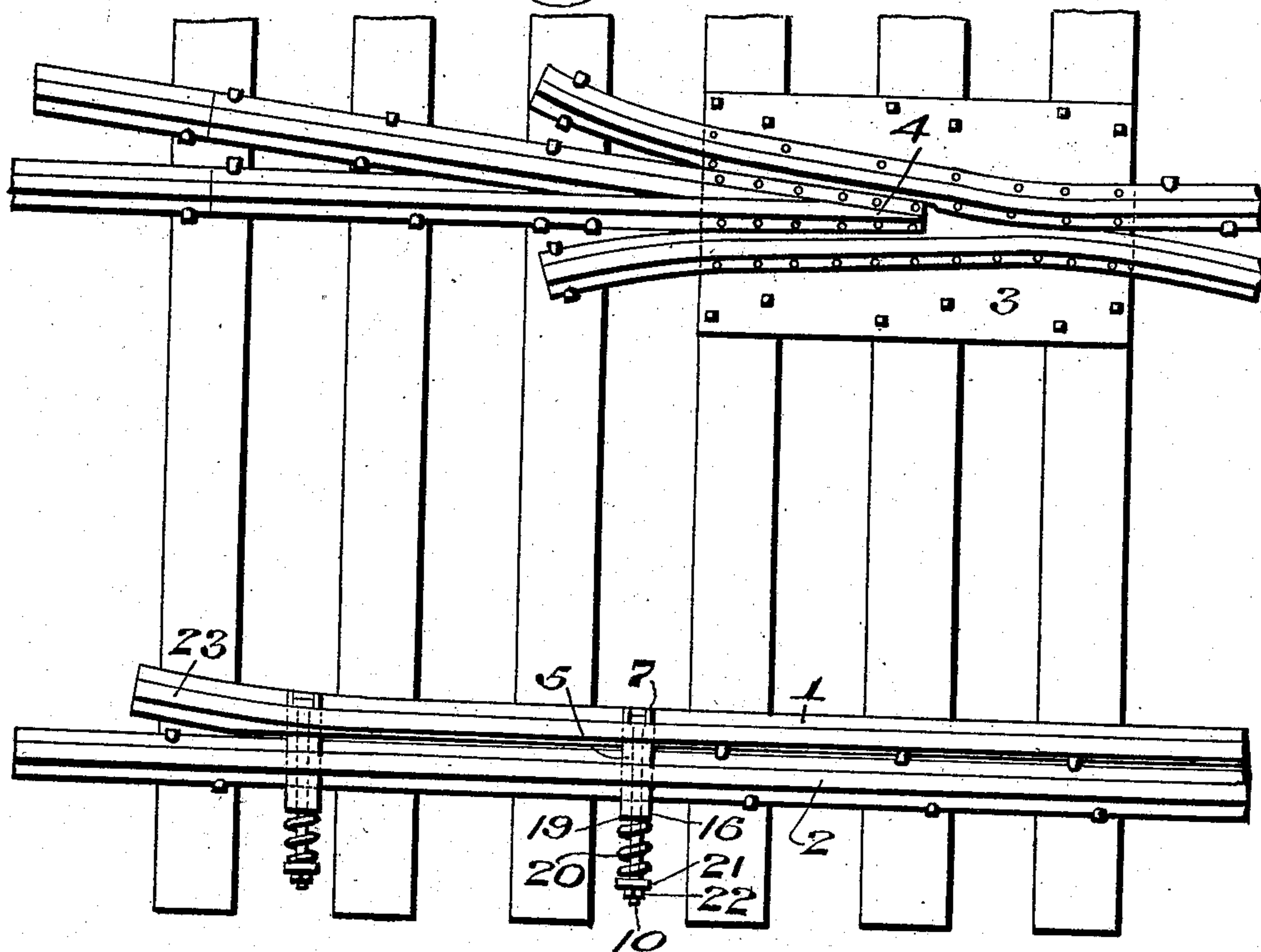
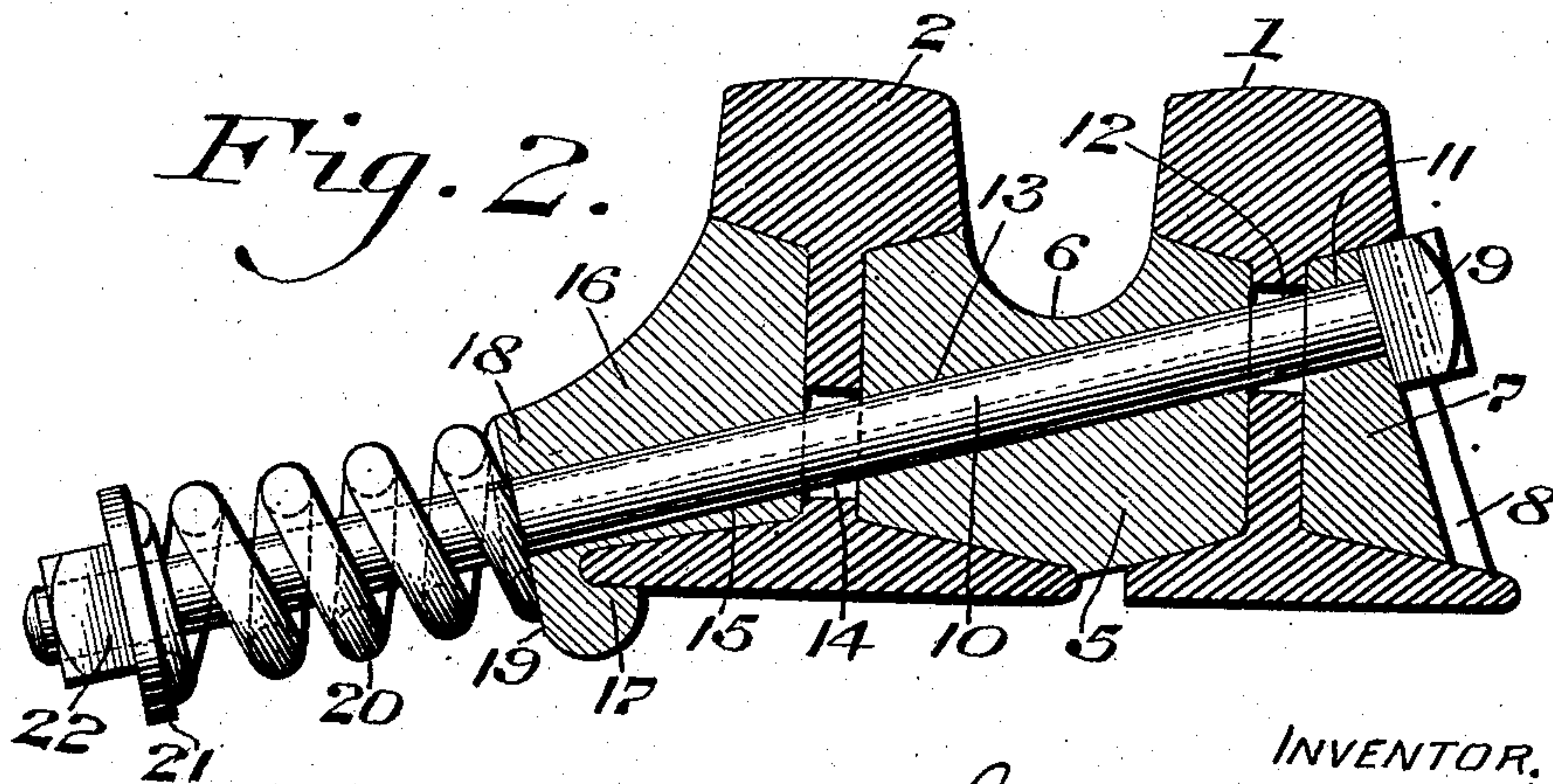


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

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CUSHIONED-GUARD-RAIL FASTENING.

No. 919,965.

Specification of Letters Patent.

Patented April 27, 1909.

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To all whom it may concern:

Be it known that I, EDWARD J. SHOFFNER, a citizen of the United States, residing at Roanoke, in the county of Roanoke, State of Virginia, have invented a new and useful Cushioned-Guard-Rail Fastening, of which the following is a specification.

My present invention relates to guard rail fastening devices and one of the main objects of my invention is to provide a guard rail fastening of a novel and simplified construction whereby the guard rail is secured to the main track rail in such a manner as to cause the wheels of the engines and cars to run to the main track rail opposite to the frog and thereby prevent the flange of the wheels from coming in contact with the point of the frog.

A further object of my invention is to provide a cushion whereby the guard rail will be cushioned when the flange of the wheel strikes the guard rail and thereby obviate the solid blow to which a guard rail is subjected when the latter is secured to the main track rail by rigid fastenings such as yokes, clamps, bolts and equivalent fastening devices.

A further object of my invention is to provide a fastening whereby the guard rail will have a tendency to follow and adhere to the main track rail when engines and cars are moving over the main track rail and to provide a means for preventing the guard rail from standing higher than the main track rail.

A further object of my invention is to provide a self adjusting guard rail fastening that will adjust and bring the guard rail back to its proper position immediately after the wheels have passed over the main track rail at a point where the guard rail is located.

A further object of my invention is to provide a fastening device that takes up the strain or blow as near as possible to the ball or top of the guard rail and transmits the blow or strain to the base of the main track rail.

With the above objects in view my present invention consists of a novel construction of a guard rail fastening by the employment of which the guard rail is automatically returned to its normal position with respect to the main track rail.

It further consists of other novel features of construction all of which will be hereinafter more fully set forth.

For the purpose of illustrating my inven-

tion, I have shown in the accompanying drawings a preferred form thereof, which is at present preferred by me since this embodiment gives satisfactory and reliable results in practice, although it is to be understood that the various instrumentalities of which my invention consists can be variously arranged and organized and that my invention is not limited to the precise arrangement and organization of these instrumentalities as hereinafter set forth.

Figure 1 represents a plan view of a portion of a track showing a guard rail embodying my invention, employed in conjunction therewith. Fig. 2 represents a sectional view of a portion of Fig. 1.

Similar numerals of reference indicate corresponding parts in the drawings.

Referring to the drawings:—In Fig. 1, I have shown the relative location of the guard rail 1 and main track rails 2 with respect to the frog 3 which latter is provided with a point 4, it being understood that one of the guard rails is located alongside of one of the main track rails at a point opposite the frog 3.

5 designates a spacing block which is interposed between the main track rail 2 and the guard rail 1, the upper contour of this block being adapted to engage the undersides of the rail heads and being provided with a recess as indicated at 6 in order to make room for the wheel flange. The sides of the filler block 5 are adapted to engage the webs of the rails 2 and 1 while the underside of such filler block is suitably inclined in order to closely engage with the base flanges of the guard rail 1 and main track rail 2.

7 designates a brace or outer filler block, the inner face of which is adapted to engage the web of the guard rail 1 while its upper face is inclined in order to engage the underside of the head of the guard rail.

The bottom of the outer filler member 7 is adapted to suitably engage with the base flange of the guard rail 1, while its outer face is inclined and provided with a slot 8 in which is adapted to be seated the head 9 of the bolt 10, it being noted that one face of said head engages the under side of the rail head. The outer block 7 is provided with a downwardly inclined aperture 11 which registers with an aperture 12 in the web of the guard rail 1, the aperture 12 registering with a similarly inclined aperture 13 in the spacing block 5. The aperture 13 registers with an aperture 14 in the web of the rail 2 while

the aperture 14 registers with an aperture 15 in a filler block 16, the upper face of which engages the underside of the head of the main track rail 2. The inner face of the
 5 block 16 engages the web of the main track rail 2, and the under face is adapted to be seated on the base flange of said main rail 2, it being noted that the filler block 16 is recessed in order to form a hook 17 which extends
 10 beneath the base of the rail flange.

The lower portion of the block 16 is enlarged as indicated at 18 and this enlargement is faced off as seen at 19 in order that the spring 20 may abut thereagainst, said
 15 spring being mounted on the bolt 10 intermediate the faced off portion 19 and the washer 21, the tension of such spring being adjusted by means of the nut 22.

The ends of the guard rail are preferably
 20 deflected as seen at 23. It is to be noted that the bolt 10 passes through the filler members and the web of the rails at an angle so that the liability of the guard rail standing higher than the main track rail is eliminated and it is also to be noted that the
 25 strain or blow due to the contact of the wheels with the guard rail is transmitted to the base of the main track rails.

Owing to the manner in which the filler
 30 member 7 is slotted there is no possibility of the improper turning of the head 9 of the bolt 10. The filler member 16 is faced off at an angle to the aperture 15 and owing to the provision of the hook 17 co-acting with
 35 the underside of the base flange of the main track rail, the displacement of such member 16 is prevented.

It will be evident that immediately after the wheels have passed over the main track
 40 rail at the location of the guard rail, the tension device will adjust and bring the guard rail to its proper position.

It will now be apparent that I have devised a novel and useful construction of a
 45 cushioned guard rail fastening which embodies the features of advantage enumerated as desirable in the foregoing, and while I have in the present instance shown and described a preferred embodiment which has been
 50 found in practice to give satisfactory and reliable results, it is to be understood that the same is susceptible of modification in various particulars without departing from the spirit or scope of the invention or sacrificing any
 55 of its advantages.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In a device of the character stated, the
 60 combination with the main track rail, of a guard rail, a spacing block intermediate said rails, filler blocks engaging the outer portions of said rails, and yielding means extending at an angle to the base flanges of the
 65 rails and passing through the webs of said

rails and through said spacing block and filler blocks for maintaining the parts in assembled position.

2. In a device of the character stated, the combination with the main track rail, of a
 70 guard rail, a spacing block intermediate said rails, a filler block engaging the inner side of said guard rail, a filler block engaging the outer side of said main track rail and having a portion extending under the base flange of
 75 the main track rail, and yielding means extending at an angle to the base flanges of the rails and passing through the webs of said rails, said spacing block and said filler blocks for securing the parts in assembled position.
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3. In a device of the character stated, the combination with a main track rail, of a guard rail, a spacing block interposed between said rails, a filler block engaging the
 85 inner side of said guard rail, a filler block engaging the outer side of said main rail and the under side of the base flange of said main rail and forming a seat, and yielding means for securing the parts in assembled position, said means extending at an angle to the base
 90 flanges and passing through the webs of said rails, said spacing block and said filler blocks.

4. In a device of the character stated, the combination with a main track rail, of a
 95 guard rail, a spacing block intermediate said rails, a filler block engaging the inner side of said guard rails, a filler block engaging the outer side of said main track rail, a bolt passing through the webs of said rails at an
 100 angle to their base flanges, said filler blocks and said spacing block, a nut for said bolt, and a spring interposed between said nut and the filler block which contacts with the main track rail.
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5. In a device of the character stated, the combination with the main track rail, of a guard rail, a spacing block intermediate said rails and contacting with the webs and base
 110 flanges of said rails and the under side of their heads, a filler block contacting with the inner face of the web of the guard rail, its base flange, and the under side of the rail head, a filler block contacting with the base
 115 flange, web and under side of the rail head of the main track rail, a bolt passing through said filler blocks, spacing block and the webs of the main track rail and of the guard rail and at an angle to the base flanges of said
 120 rails, a nut for said bolt, and a spring interposed between one of said filler blocks and said nut.

6. In a device of the character stated, the combination with the main track rail, of a
 125 guard rail, a spacing block intermediate the webs of said rails, a filler block engaging the inner face of the web of said guard rail, a filler block engaging the outer face of the web of the main track rails, a bolt passing through said filler blocks, spacing block and
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the webs of the rails at an angle to their base flanges, a nut for said bolt, and a spring interposed between said nut and the filler member adjacent thereto.

5 7. In a device of the character stated, the combination with the main track rail, of a guard rail, a spacing block engaging the webs of said rails, their base flanges and the under sides of the rail heads, a filler block
10 engaging the base flange, web and under side of the rail head of the guard rail and provided with a slot, a filler member engaging the base flange, web and under side of the rail head of the main track rail, a bolt
15 passing through said filler member, said spacing block and the webs of said rails at an angle to the base flanges of said rails, the head of said bolt being seated in said slot, a nut for said bolt, and a spring interposed be-
20 tween said nut and one of said filler blocks.

8. In a device of the character stated, the combination with the main track rail, of a guard rail, a spacing block intermediate said rails and contacting with the webs thereof,
25 said block having an inclined aperture therethrough, the webs of said rails having inclined apertures registering with the apertures of said block, a filler block on the inner side of said guard rail and having an aperture
30 registering with said guard rail aperture, a filler block engaging the outer side of said main track rail and having an inclined aperture registering with the main track rail aperture, a bolt passing through said aper-
35 tures, a nut for said bolt, and a spring interposed between said nut and one of said filler members.

9. In a device of the character stated, the combination with the main track rail, of a
40 guard rail, a spacing block intermediate said rails and contacting with the webs thereof, said block having an inclined aperture there- through, the webs of said rails having in- clined apertures registering with the aper-
45 tures of said block, a filler block on the inner side of said guard rail and having an aperture registering with said guard rail aperture, a

filler block engaging the outer side of said main track rail and having an inclined aper- 50 ture registering with the main track rail aper- ture, said filler block being provided with a hook engaging the under face of the base flange of the main track rail, a bolt passing through said apertures, a nut for said bolt, and a spring interposed between said nut and 55 one of said filler members.

10. In a device of the character stated, the combination with the main track rail, of a guard rail, a spacing block intermediate said rails, a filler block engaging the inner side of 60 said guard rail, a filler block engaging the outer side of said main track rail and having a projection extending beneath the base flange of said main track rail, a bolt passing through said inner filler block and the web of 65 said guard rail near the head thereof and extending downwardly through said spacing block, the web of said main track rail, and the outer filler block near the flange of the main track rail, a nut for said bolt, and a 70 spring intermediate said nut and said outer filler block.

11. In a device of the character stated, the combination with the main track rail, of a guard rail, a spacing block intermediate said 75 rails, a filler block engaging the inner side of said guard rail, a filler block engaging the outer side of said main track rail and having a projection extending beneath the base flange of said main track rail, a bolt passing 80 through said inner filler block and the web of said guard rail near the head thereof and extending downwardly through said spacing block, the web of said main track rail, and the outer filler block near the flange of the 85 main track rail, said inner filler block co- acting with the head of said bolt to prevent improper rotation of the latter, a nut for said bolt, and a spring intermediate said nut and said outer filler block.

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Witnesses:

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