

(No Model.)

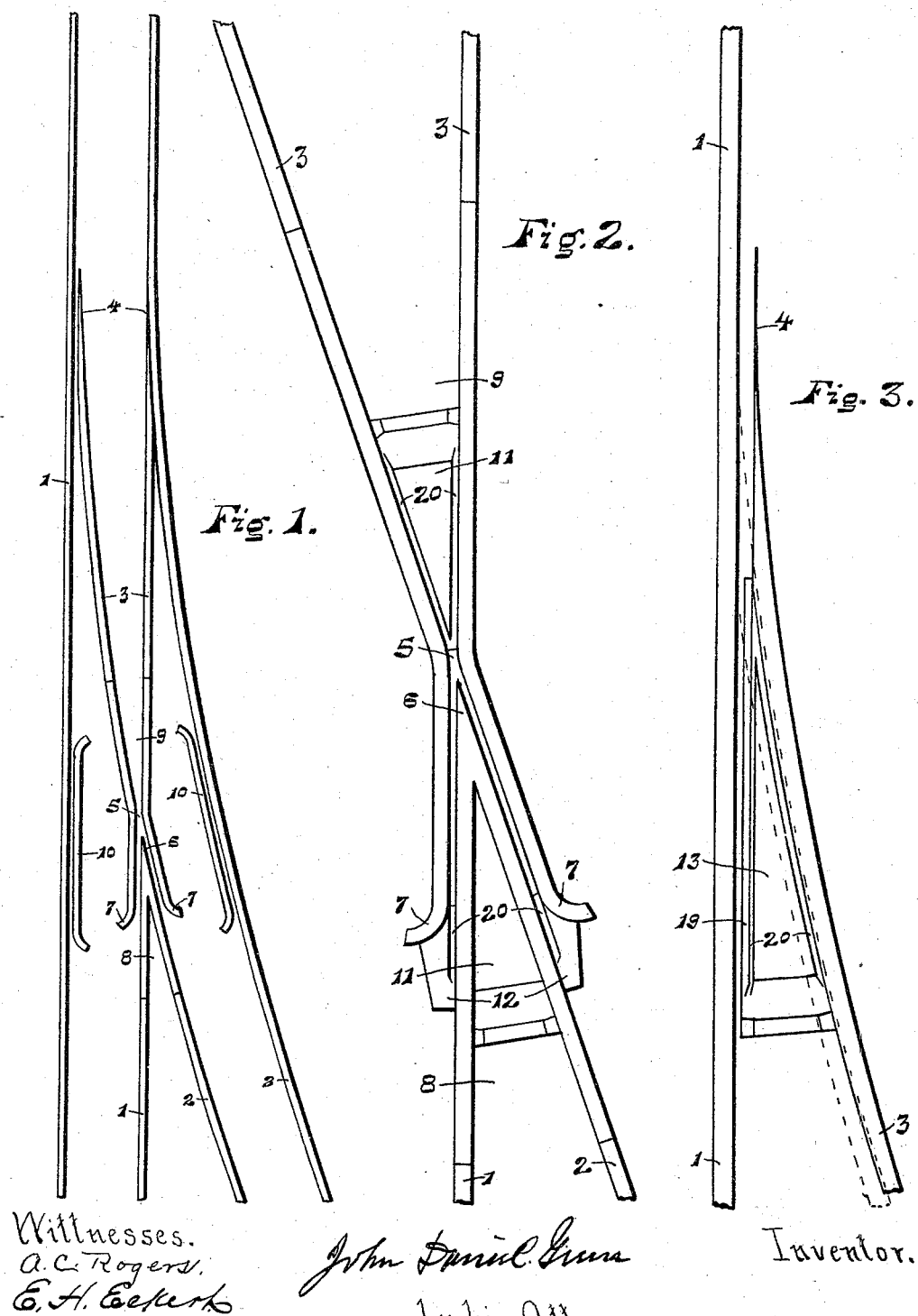
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RAILWAY FROG, SWITCH, AND GUARD RAIL BLOCK.

No. 526,442.

Patented Sept. 25, 1894.



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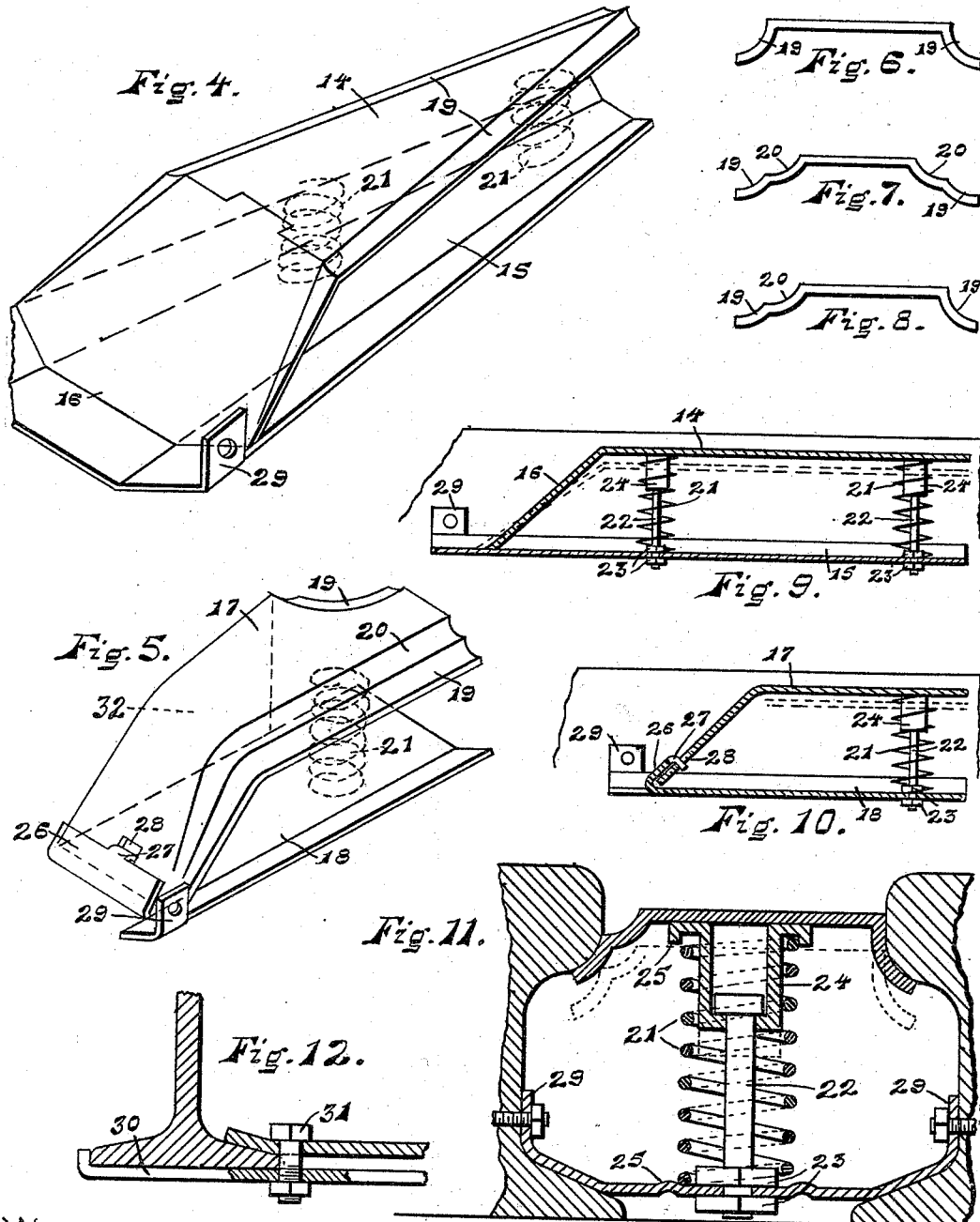
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Witnesses.  
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# UNITED STATES PATENT OFFICE.

JOHN DANIEL GREEN, OF TOLEDO, OHIO.

## RAILWAY FROG, SWITCH, AND GUARD-RAIL BLOCK.

SPECIFICATION forming part of Letters Patent No. 526,442, dated September 25, 1894.

Application filed January 26, 1894. Serial No. 498,095. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN DANIEL GREEN, of Toledo, Lucas county, Ohio, have invented certain new and useful Improvements in Railway Frogs, Switches, and Guard-Rail Blocks, of which the following is a specification.

My invention relates to improvements in blocking railway tracks at intersections, crossings, and switches, by which all danger to operatives of railway companies is removed.

In the accompanying drawings:—Figure 1, is a plan showing a section of railway track, at the location of a switch, outlining the rail intersection or frog, the guard rails, switch rails and switch points. Fig. 2, is an enlarged portion of Fig. 1 showing the frog with my improved blocks in position. Fig. 3, is an enlarged portion of Fig. 1 showing the switch rail and point with my improved block in position. Fig. 4, is a perspective view of my improved block as adapted to the ends of the railway frog. Fig. 5, is a perspective view of my improved block as adapted for use at guard rails and the wings of railway frogs. Figs. 6, 7, and 8, are cross sections of the top plates of my improved block showing construction as to surface and grooves as adapted for the different positions of the block. Fig. 9 is a longitudinal vertical section of Fig. 4. Fig. 10, is a longitudinal vertical section of Fig. 5. Fig. 11, is a transverse vertical section of my improved block as in position between the rails of a frog. Fig. 12, is a section of a portion of a rail showing another method of securing my improved blocks to the rail.

In the drawings "1" represents the rails of the main track.

2, is the rails of the siding.

3, is the switch rails.

4, is the switch points.

5, is the rail intersection or frog of which 6 is the point; 7, the wings noted as "right" and "left;" 8, the male end and 9 the female end of the frog.

10, are guard rails found in railway construction at frogs, crossings, intersections, bridges and other places of the track, where necessary.

11, is my improved block as used in the opposite ends of the railway frog.

12, is my improved block as used in the wings of a frog and for the end of all guard rails.

13, is my improved block as used at switch points.

14, is the top plate and 15, the bottom plate of 11 and 13.

16, is the door movably joined to 14 and slanting downwardly to contact with 15.

17, is the top plate and 18 the bottom plate of my improved block as adapted to guard rails and the wings of a frog.

19, is the groove made in the top plate adapting them to the shape of the rail and allowing them to fit up to them.

20, is an additional groove made in top plate, where needed, to adapt the plate to use with rails where the flange of the car wheels pass.

21, are the springs placed between the top and bottom plates, allowing a depression of the top plate, where and when necessary, and causing it to resume its position.

22, are the retaining bolts holding the top and bottom plates together, and secured to the bottom plate by nuts 23, having its upper end or head secured in a cup 24, fastened to the upper plate, admitting of a free movement when the upper plate is depressed.

23, are nuts or other suitable means of rigidly fastening the bolts 22 to the bottom plate.

24, is a cup or yoke secured to the top plate or integral therewith, engaging the bolt 22 below the head and permitting of a free movement of the top plates while in action and preserving all the parts in working order below the top surface.

25, are ridges or cup like raises on the surface of the top and bottom plate to retain the end of spring 21 in position.

26, is the end of the bottom plate of the guard rail block turned up forming a retaining wall for the end of top plate 17.

27, is a slot or similar opening in the plate 17.

28, is the tongue on the end of the bottom plate 18 at 26, and when the guard rail block 12 is put together is driven or bent over through the slot 27, thereby securing the end of the plate 17 and permitting of a movement of the same.

29, is a projecting ear of the bottom plate of the blocks formed or curved to fit up against the web of the rail, and through both of which a bolt is secured, thereby fastening the bottom plate of the block to the rail and securely holding the block in position.

30, is a strap passing under the T-rail with its end bent up engaging the flange or foot of the rail, a bolt 31, passing through it and bottom plate of the block securely clamping the block in position, and by passing the bolt 31 through a notch in the edge of the flange or foot of the rail, as shown in Fig. 12, securely holding the block in position laterally and from creeping.

In the frog block 11, and switch block 13, the outer end or door 16 is preferably hinged to the top plates, so when the top plates are depressed the door 16 following creeps outwardly and, when the plates resume normal position, the door 16 follows into place, thereby forming an effective protecting end to the block, protecting the inner or working parts from dirt or other accumulations. In the wing or guard rail blocks the top plate is formed with the side 32 to it, protecting the side away from the rails from dirt and other accumulations.

In Fig. 2, the frog block 11, as shown in position at the female end of the frog, will have a top plate formed as in Fig. 7, with the grooves 19 fitting the ball of the rail, and the flange groove 20, to allow the flange of the car wheels to pass. Top plate of the wing or guard rail blocks is formed as in Fig. 8 and as shown in Fig. 5 with the grooves 19 fitting the ball of the rail and curved end of the guard rail and having the groove 20 formed in the side next to the track rail permitting the flange of the car wheels to pass.

In Fig. 3, is shown the switch block 13 having its top plate formed as in Fig. 8 with grooves 19 fitting the ball of the rail and switch rail, and with grooves 20 formed on the side next the track rail to allow the flange of the car wheel to pass.

In Fig. 3 the switch rail is shown open and track in action with switch rail as closed in dotted lines.

When in position the switch block 13 is designed to fit the rail, and is preferably fastened to the switch rail, moving with it, thus moving the block out of the way when the

switch rail is open and the track rail is in action.

In the drawings the track blocks are shown with single springs but they may be formed with two or more springs placed either laterally or longitudinally.

I am aware that railway blocks have been in use prior to my invention, and I do not claim broadly such an idea, but I am not aware that the construction shown has ever been used, and I am desirous of obtaining the following claims.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a railway frog, switch, and guard rail block a top plate, preferably of sheet metal, with a groove 19 on one or both of its edges, and a groove 20 on one or both of its edges substantially as, and for, the purpose shown.

2. Top and bottom plates in combination with a compression spring interposed between them and by which they are held apart, a sleeve secured on the inner side of one plate and perpendicular thereto, and a bolt projecting from the inner side of said other plate and movable in the sleeve.

3. Top plate with grooves 19 and 20, bottom plate movable door 16 in combination with springs 21, bolts 22, and cup 24, substantially as shown.

4. The top plate 17, bottom plate 18, side 32, in combination with end 26 and fastening 27 and 28, substantially as shown.

5. The top plate 17, bottom plate 18, in combination, with end 26 and fastening 27 and 28 substantially as shown.

6. Top and bottom plates in combination with ear 29, substantially as shown.

7. Top and bottom plates in combination with straps 30 and bolt 31 substantially as shown.

8. The combination of a base plate, a top plate yieldingly mounted thereon, a sleeve on the inner side of one of said plates and a bolt between the plates and movable in the sleeve to a limited extent, said bolt being secured to said other plate whereby said plates are connected together.

JOHN DANIEL GREEN.

Witnesses:

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