W. M. SCOTT.

RAILROAD FROG.

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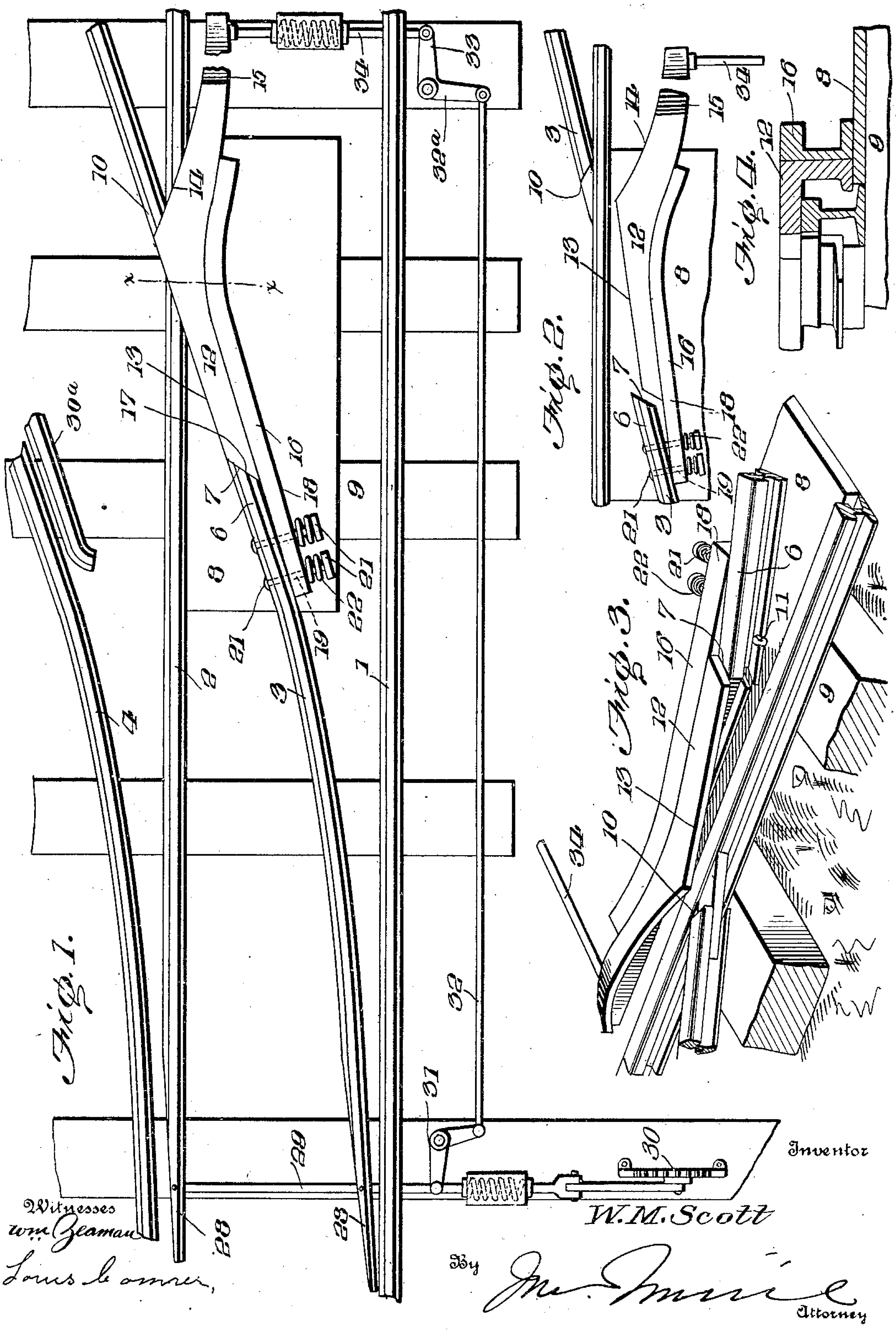
944,824. Patented Dec. 28, 1909.



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RAILROAD-FROG.

944,824. Specification of Letters Patent. Patented Dec. 28, 1909.

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To all whom it may concern:

Be it known that I, WILLIAM M. SCOTT, a citizen of the United States, residing at Toccoa, in the county of Stephens and State of Georgia, have invented certain new and useful Improvements in Railroad-Frogs, of which the following is a specification.

This invention relates to improvements in frogs, used in connection with rail road tracks.

The object of the invention is to provide a structure which will avoid the gap or space at the frog joints, and thereby dispense with the noise of the wheels passing, and consequent jolting of the cars.

Another object of the invention is to provide a structure which will permit of the side track when switching, as well as the main line track when the switch is open, being in alinement with the ball of the rails at the frog point; thereby avoiding gaps or spaces, as practiced at the present time.

The invention also relates to the specific details of construction and arrangements of parts, which will be hereinafter described.

In the drawings: Figure 1, is a plan view of my improvement. Fig. 2, is a similar view showing the frog positioned to clear the main track. Fig. 3, is a perspective view of my improved frog. Fig. 4, is a detail section on the line *x*—*x* Fig. 1.

1 and 2 indicate the main line rails and 3 and 4 the switch rails. The main tracks 1 and 2, are of usual construction and are laid in the usual manner. The switch rail 3 however is specially constructed, and is specially mounted. The inside switch rail 3, is gradually elevated from the level of the main line rail 1, from the point 5, to the point 6, adjacent the opposite main rail 2. At the point 6 the upper surface of the switch rail 3 is above the upper surface of the main line rail 2, approximately 2 inches, and the rail 3 is cut off at an angle as shown at 7. The switch rail 3 is supported at one end on the bed plate 8 securely bolted or otherwise fastened to a foundation 9. The switch rail 3 is continued on the other side of the main rail 2 and is also cut off at an angle as at 10, and is on a level with the point 6. The rails are bolted at 11, to the plate 8, to provide a substantial structure, as will be obvious.

To fill the gap formed between the beveled ends 7 and 10 of the switch rail 3 I provide a movable frog rail section 12, of angular formation and comprising a straightedge 13, in alinement with the inner edge of the switch rail 3 and which fits snugly between the beveled edges 7 and 10 thereof and a reinforcing rail 16. From the edge 13 the edge of the frog rail section inclines in the opposite direction as at 14, to a point beyond the inner edge of the main line rail 2 and thence runs parallel with said main line as indicated at 15.

The frog rail section is bolted or otherwise fastened to a reinforcing rail 16, which forms a part of and extends beyond the end 17 of the frog rail section to form a firm support, as indicated at 18. The extended end 18, is provided with two openings 19—19, through which and similar openings 20—20 pass bolts 21—21 on the inner projecting ends of which are springs 22, of sufficient strength to hold the frog rail section snugly against the switch rail 3 and the main line rail 2.

The switch points 28—28 are connected to a rod 29, having an operating handle 30. To the rod 29, is pivotally connected one arm of a bell crank lever 31, the other arm of which has connected to it a rod 32, pivotally secured to one arm of a bell crank lever 32ª. To the other arm of the bell crank lever 33, is connected a rod 34, pivoted to the free end of the frog rail section 12.

In operation, when it is desired to switch a train from the main line to the siding the operating lever 30 is thrown to bring the switch points 28 to the position shown in Fig. 1, and through the connections described the free end of the frog rail section is permitted to be forced in against the main and switch rails 2 and 3, under the influence of the springs 22. Under these conditions the overlying edge 12, of the frog rail section will overlie the main rail 2 and its edge will come into alinement with the sections of the switch rail 3. The overlying edge 12, is supported on the upper surface of the main line rail to provide a substantial support when the wheels of the train are passing.

It will be seen that by this construction, my improved frog will produce an even rail edge when the flanges of the wheel passes the main line track which thereby removes the gaps and spaces usually employed at this point in rails now in use.

To throw the switch to open the main line,

and correspondingly position the frog section 12, the operating lever 30 is reversed, which through the described connections will pull the free end of the frog section 12 away from the switch rail 3, the bolts and springs 21 and 22 forming what may be termed a hinge at the opposite end of said frog rail section, whereby the end 15 may be swung away from the normal position. When the frog rail section is in this position the main line rail 2, is uninterrupted at the juncture of the same and the switch rail, as clearly shown in Fig. 2.

From the foregoing description taken in connection with the accompanying drawings, it will be seen I have provided a convenient and durable frog structure, so that in either open or closed position the respective rail will be continuous, and spaces and gaps are entirely dispensed with.

To effectually prevent the lateral pressure of the flange of the wheel forcing the frog rail section out of alinement with the switch rail 3, when the parts are in the position shown in Fig. 1, I provide a guard rail 30[a] on the inside of the rail 4.

The springs 22, are quite sufficient to hold the frog rail section in operative position, inasmuch as the guard rail takes the lateral strain.

What I claim is:

1. A rail road frog construction comprising a continuous main line rail at the point of crossing of a switch rail, a switch rail terminating short of each side of the continuous main line rail and slightly elevated above the top of the same, a frog section fitting between the ends of the switch rail and overlapping the main line rail when in alinement with the adjacent ends of the switch rail, a bolt securing the frog rail section to the switch rail, and a spring coöperating with the bolt to hold the frog rail section in alinement with the switch rail, said spring permitting of the frog rail section being moved to permit the flange of a wheel to travel, on the continuous main line rail.

2. A rail road frog construction comprising a continuous main line rail, a switch rail terminating on opposite sides of the main line rail, a frog rail section normally fitting between the ends of the switch rail and overlying the main line rail and means for holding the frog rail section in alinement with the switch rail, said means also permitting of the frog rail section being moved from alinement with the switch rail to allow free passage of the flange of a wheel over the continuous main line rail.

3. In combination, a main line rail, a switch rail terminating on opposite sides of the main line rail, the upper surface of said switch rail being above the plane of the upper surface of the main line rail, a frog section having an overlying portion which overlies the main line rail when in alinement with the switch rail ends, the said section being extended at opposite ends beyond the ends of the overlapping portion, bolts and springs engaging one extended end of the section to secure the latter in position, and the opposite end of the said section being angularly disposed with reference to the overlapping portion and spaced from and terminating inside the continuous main line rail.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM M. SCOTT.

Witnesses:

W. N. Woodson,

Jno. Imirie.