

2 Sheets—Sheet 1.

No. 569,653.

Patented Oct. 20, 1896.

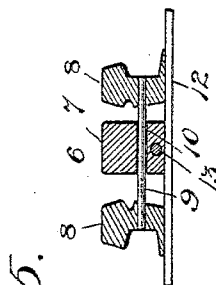
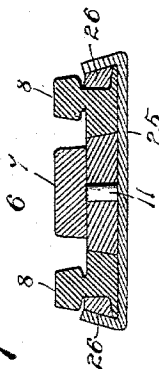
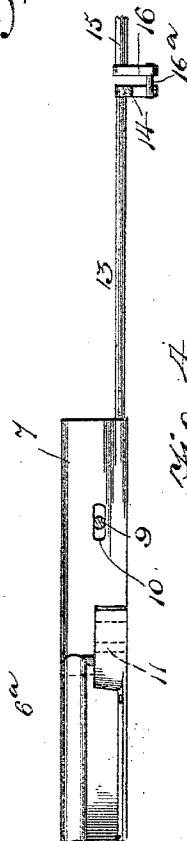


Fig. 5.



1. bis.



729.

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By *his* Attorneys.

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(No Model.)

2 Sheets—Sheet 2.

J. L. McCANN.
RAILROAD SWITCH.

No. 569,653.

Patented Oct. 20, 1896.

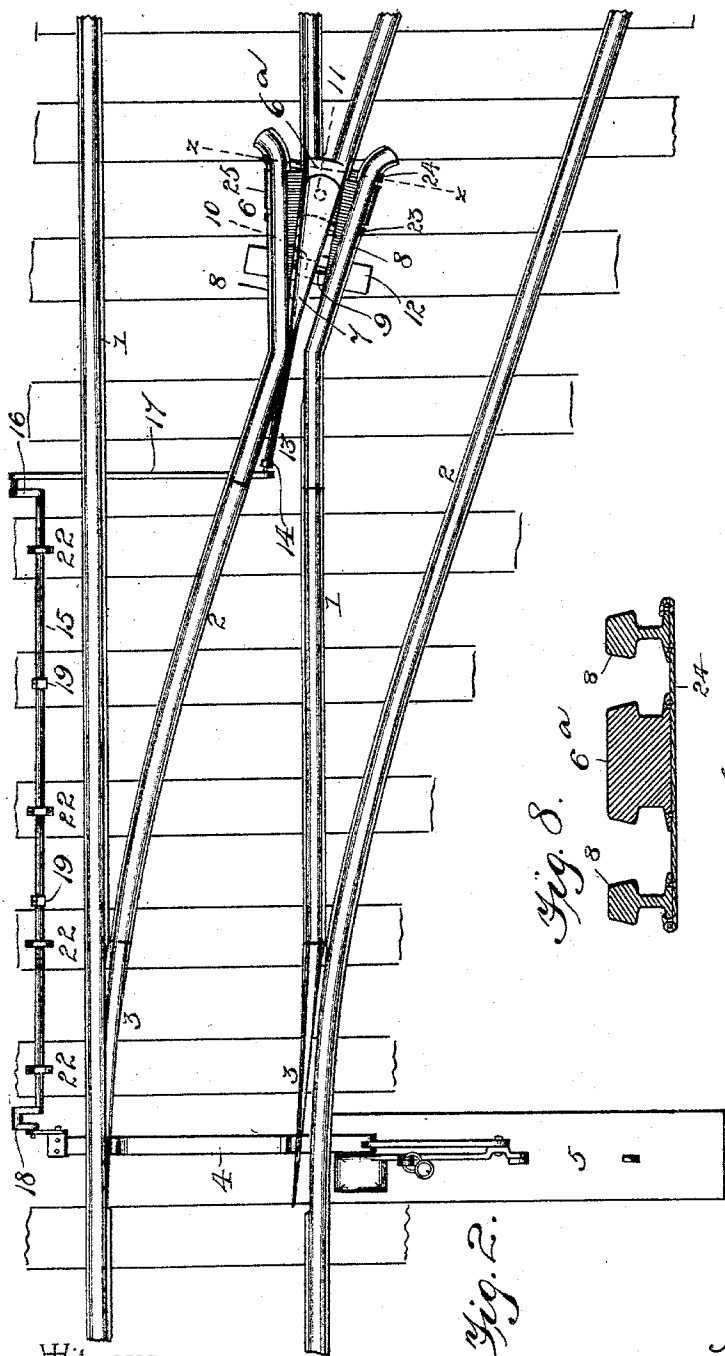


Fig. 2.

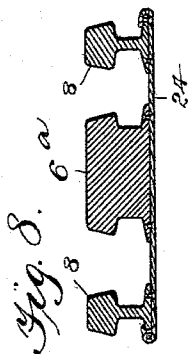


Fig. 8.

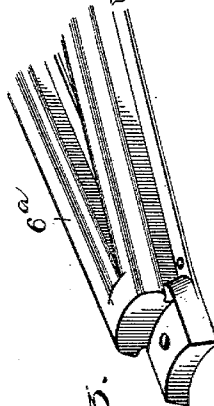


Fig. 5.

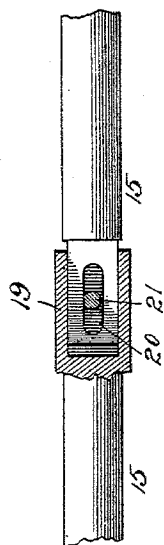


Fig. 6.

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UNITED STATES PATENT OFFICE.

JAMES L. McCANN, OF ROANOKE, WEST VIRGINIA.

RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 569,653, dated October 20, 1896.

Application filed November 22, 1895. Serial No. 569,841. (No model.)

To all whom it may concern:

Be it known that I, JAMES L. McCANN, a citizen of the United States, residing at Roanoke, in the county of Lewis and State of West Virginia, have invented a new and useful Railroad-Switch, of which the following is a specification.

This invention relates to railroad-switches, and aims to improve, simplify, and cheapen their construction consistent with efficiency and durability; and to this and such other ends as pertain to the nature of the invention the improvement consists in certain novel features of construction and combinations of parts, which hereinafter will be more fully described, illustrated, and claimed.

For a full understanding of the merits and advantages of the invention reference is to be had to the accompanying drawings and the following description.

The improvement is susceptible of various changes in the form, proportion, and the minor details of construction without departing from the principle or sacrificing any of the advantages thereof, and to a full disclosure of the invention an adaptation thereof is shown in the accompanying drawings, in which—

Figure 1 is a top plan view of a railroad-switch embodying the principles of this invention and showing the main track or line open. Fig. 2 is a similar view to Fig. 1, showing the operating-rod arranged exterior to the track and the siding open. Fig. 3 is a detail perspective view of the frog, the pivoted point being omitted. Fig. 4 is a side elevation of the frog. Fig. 5 is a cross-section of the frog and guard-rails on the line X X of Fig. 1. Fig. 6 is a detail view of a compensating joint between the sections of the operating-rod. Fig. 7 is a section on the line Y Y of Fig. 1. Fig. 8 is a section on the line Z Z of Fig. 2.

The same reference-numerals denote corresponding and like parts in all the figures of the drawings.

The rails of the main track or line are represented by the numeral 1, and the rails of the siding or branch are designated by the numeral 2. The movable switch-rails are indicated by 3, and are connected by the switch-rod 4, which is operated from the switch-stand 5, located to one side of the track in the usual

manner. The frog 6, as usual, is located at the juncture or intersection of the rails of the main line and siding, and comprises a rigid part 6^a and a pivoted point 7, the opposing ends of the point 7 and rigid part 6^a being halved and the adjacent ends or shoulders being formed on the arc of a circle whose center corresponds with the pivotal connection of the point 7 with the rigid part, thereby securing a close fit between these parts. Guard-rails 8 are located upon opposite sides of the point 7, and are rigidly secured to the ties or sleepers in the ordinary way. A pin 9 passes transversely through registering openings in the guard-rails and point 7 and retains the latter in working position. The opening 10 in the point 7, through which the pin 9 extends, is elongated horizontally to admit of the movements of the point about its pivot. By reason of the pin 9 holding the point 7 in working position the said point is formed with an integral pivot 11, which enters an opening or socket in the rigid part 6^a. A wear-plate 12 is located beneath the point 7, to prevent the latter from cutting or wearing into the tie, and may be of steel or wrought or cast iron, as preferred.

An arm 13 extends from the free end of the point 7 and in line with the latter, and is arranged above the plane of the lower side thereof, so as not to be interfered with by the road-bed or the ties, and the outer end of this arm is provided with a crank 14, which has connection with the adjacent end of the operating-rod 15. When the operating-rod 15 is located between the rails of the track, the crank 16 has direct connection with the crank 14; but when the operating-rod is located exterior to the track, as shown in Fig. 2, the crank 16 is connected with the crank 14 by means of a bar or rod 17. The cranks 14 and 16 are suitably connected, so that a turning of the rod 15 will effect a lateral shifting of the point 7 to the required position. As shown most clearly in Fig. 4, the part 14 is a radius-bar and has an elongated opening or slot which receives a pin 16^a at the extremity of the crank 16. Upon turning the rod 15 the pin 16^a will move laterally in an arcuate path and operating in the slotted radius-bar 14 will result in a lateral movement of the point 7.

The operating-rod 15 is formed with a crank

18 at the end remote from the crank 16, and is connected with the switch-rod 4 in any convenient manner, so that upon operating the switch-rod the operating-rod 15 will be actuated and move the point 7 in the desired direction.

In order to allow for contraction and expansion due to the changes in temperature, the operating-rod 15 is composed of sections 10 which are connected together by compensating joints, one section having a socket 19 and the adjacent end of the contiguous section entering the socket 19 and having a longitudinal slot 20, through which passes a pin 21, 15 by means of which the sections are coupled together. It is immaterial upon which section the socket 19 is formed so long as the desired result is attained.

It will be understood that the operating-rod 20 will be journaled in suitable bearings, the latter consisting of blocks 22, which are attached to the ties in any convenient manner. The sole purpose of the operating-rod 15 is to transmit motion from the switch-rod 25 to the pivoted or movable point of the frog, so as to cause the latter to move simultaneously with the switch-rails.

In order to secure the guard-rails and rigid part 6^a together in a substantial manner, 30 plates or bars 23 and 24 are employed, and are of similar construction and secured to the parts in about the same manner. Hence a detailed description of the one will suffice for a full understanding of both.

Referring to Fig. 8, it will be seen that the 35 bar or plate 24 is riveted to the lateral flanges of the guard-rails and part 6^a, thereby maintaining these parts in fixed relation. The bar or plate 23 is located in advance of the part 24, and a clamp or tie-plate 25 is placed 40 between them. The ends of the clamp 25 extend upwardly and inwardly, and fastening means 26 are interposed between the sides of

the guard-rails and the inclined ends of the clamp 25 to prevent any possible spreading 45 of the guard-rails and to sustain them against the superposed weight of the passing train.

The fastening means 26 may be a block and key, as usually provided in the construction 50 of railroads.

Having thus described the invention, what is claimed as new is—

1. In a railroad-switch, the combination of a frog located at the point of intersection of the rails of the main track and siding, and 55 having a movable or pivoted point, an arm in line with the pivoted frog-point and projecting from the free end thereof and located above the plane of the lower side of the frog, and having an arm at its free end, and an operating-rod having connection with the said 60 arm and with the switch-rod, substantially as set forth for the purpose described.

2. In a railroad-switch, the combination of the movable switch-rails, a switch-rod, a frog 65 located at the intersection of the main and branch rails comprising a rigid part and a pivoted point whose adjacent ends are halved together and formed on the arcs of circles, an arm in line with and projecting from the free 70 end of the pivoted frog-point and terminating in an arm, an operating-rod having compensating joints and adapted to transmit motion from the switch-rod to the pivoted frog-point, guard-rails on opposite sides of the pivoted 75 frog-point, and a pin passing through registering openings in the guard-rails and pivoted frog-point, substantially as set forth for the purpose described.

In testimony that I claim the foregoing as 80 my own I have hereto affixed my signature in the presence of two witnesses.

JAMES L. McCANN.

Witnesses:

GEO. WOOFER,
P. L. SMITH.